

# CROWN MOUNTAIN PROJECT - YIELD OPTIMISATION STUDY RESULTS: INCREASED PRODUCTION TO 1.96Mtpa AND 25% NPV IMPROVEMENT ABOVE 2020 BFS

# Highlights

- The Yield Optimisation Study, the first optimisation opportunity of the 2020 Crown Mountain Bankable Feasibility Study ('BFS'), has confirmed increased production and substantial improved potential economic outcomes by increasing product ash levels from 9.5% to 10.5% for North and East pits product and from 9.5% to 11.0% for South Pit product.
- Increased product ash levels enable increased processing yield which results in a direct increase in product coal and export sales.
- The study determined an increased Life-of-Mine product yield of 52.9% compared with 48.8% in the BFS resulting in an 8.4% increase in average annual product coal sales from 1.8 to 1.96Mtpa.
- The increased yield and consequent increase in saleable export product results in a 4% reduction in cash operating costs (FOB Vancouver) to USD89.41/tonne, further enhancing the project's attractive position on the cost curve.
- The reduced production cost and increased sales volume resulted in an overall 25% increase in pre-tax NPV10 to US\$469m compared with that in the BFS.

Jameson Resources Limited (ASX: JAL) is very pleased to report the key results of the Yield Optimisation Study for the Crown Mountain Hard Coking Coal Project ('Project') in British Columbia, Canada. The Yield Optimisation Study builds upon the Bankable Feasibility Study completed in July 2020 which confirmed that the Project represents a compelling high quality hard coking coal development opportunity with a competitive operating and capital cost structure, with access to existing common user rail and port infrastructure.

JAL's ASX announcement in relation to the BFS (9 July 2020) stated: "The Bankable Feasibility Study has also identified a number of areas of potential optimisation that the Company intends to assess in order to maximise the economic outcomes whilst finalising the Environmental Assessment ('EA') approval…". This Yield Optimisation Study announcement should be read together with the 9 July 2020 ASX statement as well as the cautionary statements below.

Jameson's Chair, Nicole Hollows, said: "The Yield Optimisation Study further enhances the cost competitive position and positive economic returns for the Project. Crown Mountain is a compelling value proposition with high quality hard coking and robust economic outcomes located in a well-recognised existing production area with close proximity to established infrastructure."

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Jameson's Managing Director, Michael Gray said: "Completion of the Yield Optimisation Study further improves Crown Mountain's attractive business case from that of the BFS. Jameson will continue to progress other opportunities to optimise the Project in parallel with progressing approval of the Environmental Assessment. The Project's attractive economics and progress of the Environmental Assessment are confirmed by the International Energy Agency's view that Crown Mountain is the most advanced steelmaking coal project in Canada<sup>1</sup>".

# Background

Crown Mountain Coking Coal Project is a potential low-cost, high-quality, open cut hard coking coal mine located adjacent to two existing hard coking coal mines within the Elk Valley in British Columbia. The Project is owned by Jameson's Canadian Subsidiary, NWP Coal Canada Ltd ('NWP') that is 77.8% owned by Jameson and 22.2% by Bathurst Resources Limited (ASX:BRL).

A Bankable Feasibility Study ("BFS") completed in July 2020 confirmed that Crown Mountain represents a compelling high quality hard coking coal development opportunity with a competitive operating and capital cost structure and access to existing common user rail and port infrastructure.

The 9-July-2020 ASX announcement relating to the BFS noted there were a number of optimisation opportunities which could further improve the positive economics of the Project. These included:

- Yield Optimisation
- Increased Coal Handling and Processing Plant (CHPP) Utilisation
- Review of CHPP Capital costs through Chinese procurement and/or modular design
- Contract mining or mobile equipment leasing
- Consideration of potential Build-Own-Operate-Transfer options for the CHPP and associated infrastructure
- Further exploration in Southern Extension area to upgrade current 24mt Inferred Resource to Measured and Indicated resources.

The Yield Optimisation Study, the first of these opportunities to be progressed, involved the following:

- Assessing the ash yield curve of each coal block to assess opportunities to improve CHPP yield
- Testing of higher ash product coal samples to understand any potential impact a higher ash product has on key coking properties of the product
- Assessment of the overall Project economics of producing a higher ash product by analysing potential production increase against any relative revenue discount due to a higher ash product.

A summary of the key activities of the Yield Optimisation Study and the key assumptions and design parameters adopted in the Yield Optimisation Study and the BFS that relate to Mining, Processing, Infrastructure, Transport, General, Coal Quality and Product Mix, Environmental Issues, First Nations, Governmental and Third-Party Issues are detailed in this statement.

The results of this analysis compared with those of the July 2020 BFS are summarised in Table 1 below.

<sup>&</sup>lt;sup>1</sup> Coal 2020, IEA



Table 1– Key Project Parameters: BFS and Yield Optimisation Study

Outcome*	Unit	Bankable Feasibility Study (July 2020)	Yield Optimisation Study (July 2021)
Total ROM Coal Mined	Mt ROM	57.5	57.5
Mine Life	Years	15	15
Average ROM Strip Ratio	bcm: ROM t	4.7	4.7
LOM Processing Yield	%	48. 8%	52.9%
LOM Average Annual Exports	Mtpa	1.8	1.96
Total Clean Coal Production	Mt	26.27	28.46
Clean Coal Strip Ratio	bcm: clean coal t	10.29	9.49
Pre-production Capex"	US\$M	309	309
Cash Cost (FOB Vancouver)	US\$/t	\$93.17	\$89.41
Low Volatile Premium Hard Coking Coal Benchmark	US/t	165	165
NPV(10) (Pre-tax)	US\$M	\$376 M	\$469 M 👚
NPV(10) (Post-tax)	US\$M	\$217 M	\$276 M
IRR (Pre-tax)	%	36.4%	40.2%
IRR (Post-tax)	%	27.2%	30.2%
Net Cashflow (Pre-tax)	US\$m	\$1,029 M	\$1,261 M
Net Cashflow (Post-tax)	US\$m	\$652 M	\$797 M 👚

<sup>\*</sup> Operating costs and capital expenditure have been converted from CAD to USD at 0.75

<sup>\*\*</sup>Excludes Contingency, Owners Costs, Reclamation Security



#### Summary

The adoption of a higher ash product coal specification for North and East pits (increase from 9.5% to 10.5%) and South Pit (from 9.5% to 11.0%) provides a significant economic benefit to the Crown Mountain Hard Coking Coal Project. The results lead to an increase in annual sales (average sales increase from 1.8Mtpa to 1.96Mtpa) with a consequent decrease in FOB Cash Costs (US\$93.17 to US\$89.41). These results further enhance the positive economic position of the Project that was determined in the BES.

JAL will work with NWP Coal Canada Limited to undertake additional studies to further optimise the BFS in parallel with continuing to progress regulatory approvals for the Project.

This announcement is authorised for release to the market by the Board of Jameson Resources Limited

For further information, please contact:

Michael Gray Managing Director

Email: michaelgray@jamesonresources.com.au

Phone: +61 417 736 461

### **About Jameson Resources Limited**

Jameson Resources Limited (ASX:JAL) is a junior resources company focused on the acquisition, exploration and development of strategic coal projects in western Canada. The Company has an 77.8% equity interest in NWP Coal Canada Limited ("NWP") which holds a 90% interest in the Crown Mountain Coal Project, and a 100% direct interest in the Dunlevy coal project located in British Columbia. Jameson's tenement portfolio in British Columbia is positioned in coalfields adjacent to existing mines responsible for the majority of Canada's metallurgical coal exports and are close to railways connecting to export facilities.

To learn more, please contact the Company at +61 8 9200 4473, or visit: www.jamesonresources.com.au

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#### **About Bathurst Resources Limited**

In July 2018, a subsidiary of Bathurst Resources Limited (ASX:BRL) acquired an 8% interest in NWP, with option to increase that interest to 50% subject to certain milestones and additional payments. Bathurst exercised the Tranche One Option in September 2019 and now holds a 20% interest in NWP with an additional 2.2% held as Class B Preference shares.

Bathurst is the largest coal company operating in New Zealand with over 2.2 million tonnes per annum of coal under management. More than 70% of the coal sold is used for steel making, both domestically and for export to Asian coke makers and steel mills. The remainder is sold to domestic users in the agricultural and energy sectors. Bathurst is focussed on low cost, sustainable mining with a strong focus on the local communities and environmental management.

#### **Forward Looking Statements**

This announcement contains "forward-looking statements". Such forward-looking statements include, without limitation: estimates of future earnings, the sensitivity of earnings to commodity prices and foreign exchange rate movements; estimates of future production and sales; estimates of future cash flows, the sensitivity of cash flows to commodity prices and foreign exchange rate movements; statements regarding future debt repayments; estimates of future capital expenditures; estimates of resources and statements regarding future exploration results; and where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to commodity price volatility, currency fluctuations, increased production costs and variances in resource or reserve rates from those assumed in the company's plans, as well as political and operational risks in the countries and states in which we operate or sell product to, and governmental regulation and judicial outcomes. For a more detailed discussion of such risks and other factors, see the Company's Annual Reports, as well as the Company's other filings. The Company does not undertake any obligation to release publicly any revisions to any "forward looking statement" to reflect events or circumstances after the date of this release, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.



# Summary of Yield Optimisation Study - August 2021

# A Yield Optimisation

On 19 October 2020, Jameson announced that it had engaged Sedgman Canada Limited ("Sedgman") (a member of CIMIC Group) to undertake the yield optimisation work to analyse the ash yield curve to assess opportunities to improve CHPP yield outcomes for the hard coking coal product.

Sedgman undertook an analysis the ash yield curve to better assess opportunities to improve CHPP yields on both a blended seam and individual seam basis, including the potential for yield improvements associated with a higher ash specification coal. The previous coal quality work was undertaken for the BFS at a target ash specification of 9.5%.

Table 2 shows the estimated yields using these updated regressions for production of a 10.5% ash coking product from the North and East pits and an 11% ash coking product from the South Pit compared with the regressions used in the BFS, which assumed a 9.5% ash product from all pits.

Table 2 Modelled Coking Coal Yields - BFS (Jul 2020) & Yield Optimisation Study (Aug 2021)

	North Pit		East Pit		South Pit	
	Product Ash	Yield	Product Ash	Yield	Product Ash	Yield
	(% ad)	(% ar)	(% ad)	(% ar)	(% ad)	(% ar)
BFS July 2020	9.5	56.6	9.5	47.0	9.5	41.2
Yield Optimisation Study Aug 2021	10.5	57.8	10.5	49.7	11.0	47.1
Relative Yield Increase (%)		2.1%		5.7%		14.3%

## **Assessment of Coking Properties**

As part of the BFS, Crown Mountain product coal samples that were collected in the 2018-19 exploration program were subject to coke oven testing to confirm coke making properties. That testing confirmed product from the Project's North and East Pit and South Pit contained high Coke Strength after Reaction (CSR) and low volatile matter (VM) consistent with the world's premium hard coking coals. High CSR and low VM are critical coke-making characteristics that determine demand and relative market position for coking coals

In order to confirm increased ash levels did not have any deleterious effect on these attractive key coke making properties, additional coke oven testing was undertaken on retained samples from the 2018 Bulk Sample program. Samples that had been sealed and refrigerated, were blended to replicate the product ash target and processed in Canmet's coke oven test facility in Ottawa, Canada.

The test results confirmed that there was no material change to any key coking properties including CSR, Free Swelling Index (FSI) or fluidity from the test work undertaken for the BFS.

These results confirm the attractive market position of both the North and East Pit coal and the South Pit coal relative to the world's leading Premium Low Volatile Hard Coking Coals as set out in the BFS. A summary of comparison of CSR and Volatile Matter for those coals is shown in Graph 1.





Graph 1 – Comparison of CSR and Volatile Matter for Premium Hard Coking Coals

#### Assessment of Coal Price Implications

The benchmark product specification for Premium Low Volatile ('PLV') Hard Coking Coal ('HCC') is based on a 10.5% ash product confirming that product from the North and East pits will attract the benchmark PLV price with no discount. As identified in the 2020 BFS, the South Pit coal does have a lower CSR than the North and East pits product and is expected to receive a discount of 9-11% compared with the PLV HCC benchmark. In addition, the adoption of an 11.0% ash specification will incur a further 0.5% price penalty to account for the 0.5% increased ash level above the 10.5% ash PLV HCC benchmark. As a result, expected pricing for the South Pit coal is total 11.5% discount to the PLV HCC benchmark price.

## B Economic Assessment – Key Assumptions

Based on the above conclusions for revised coal product specification, the BFS cashflow model was updated to reflect the increased yield and revenue for the Hard Coking Coal products.

All other material assumptions adopted in the BFS including Resources and Reserves, mining assumptions, mining operations, project capital expenditure and unit operating costs were unchanged. Benchmark coal price assumptions and foreign exchange rates were also unchanged from the BFS.

A summary of the key project parameters and assumptions used in the July 2020 BFS and the August 2021 Yield Optimisation Study follows:



#### 1. PROJECT LOCATION

Crown Mountain is located in the Elk Valley coalfields of the East Kootenays in the South East of British Columbia, where there are currently four operating metallurgical coal mines that are operated by Teck Resources Limited. Crown Mountain is situated between Teck's Line Creek and Elkview operations, and displays similar geology and coal quality. Given the Project's proximity to existing operations that produce approximately 26Mt of coal annually, there are a number of infrastructure benefits that makes development enticing that include:

- Close proximity to Canadian Pacific's common user rail that links the coalfields of the Elk Valley to the deep-water ports of Western British Columbia
- Three potential deep-water ports that allow access to the seaborne metallurgical coal market

   Westshore, Neptune and Ridley Terminals. Westshore is the preferred port, and while the
   Company does not currently have a take or pay agreement in place, publicly available information indicates Teck Resources has commenced shifting the majority of its production from Westshore to Neptune Terminal given Neptune's expansion is now complete
- Availability of a skilled labour force without the requirements of having to build camp infrastructure, with the towns of Sparwood, Elkford, Cranbrook and Fernie all having skilled labour pools with mining experience to potentially source future workers
- Excellent OEM vendor support, in the Elk Valley, with a number of major equipment suppliers having local warehouses, maintenance facilities, and personnel to provide operational maintenance support.

#### 2. RESOURCES

The Resource estimate used for preparation of the BFS and Yield Optimisation Study is summarised in Table 3 below.

The estimates have been prepared in accordance with the requirements of the Canadian National Instrument (NI) 43-101 and the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards. NI 43-101 is the Canadian equivalent of the 2012 Joint Ore Reserves Committee (JORC) Standard.

A Qualified Person (Competent Person), who is an employee of Stantec, validated the available geological data, constructed the computer based geological model and undertook resource estimation.

The basis for the determination of the Resources is set out in JORC Table 2.1 attached



Table 3 - Resource summary (Mtonnes)(as at July 8, 2020)

Resource Area	Measured (Mt)	Indicated (Mt)	Measured & Indicated (Mt)	Inferred (Mt)	Measured, Indicated & Inferred (Mt)
North Pit	10.1	3.0	13.1	-	13.1
South Pit	41.0	12.4	53.4	-	53.4
South Extension <sup>2</sup>	-	-	-	23.7	23.7
Total	51.1	15.4	66.5	23.7	90.2

#### 3. RESERVES

The JORC Code requires that at a minimum, a preliminary feasibility study or feasibility study be completed as the basis for the definition of reserve quantities. The July 2020 Crown Mountain BFS has been used as the basis for defining the reserve quantities as outlined in Table 4 below. Assumptions adopted by the Qualified Person (Competent Person) in defining these Reserve quantities are set out in JORC Table 2.1 *attached.* The BFS and Yield Optimisation Study assume mining all the defined mineable reserve.

Table 4– Run of mine surface mineable reserve summary (ktonnes)(as at July 8, 2020)

		Run of Mine Coal Reserves			
	ASTM		(Kton	nes)	
Area	Group	Proven		Probable	
		COKING	PCI	COKING	PCI
North Pit		9,603	429	3,924	1,068
East Pit	Bituminous	2,271	135	532	46
South Pit		27,975	3,218	4,828	3,514
Sub-Total		39,848	3,781	9,284	4,627
Total Proven & Probable		43,629 13,911			
Total			57,5	540	

Notes:

- 1. These are ROM (run-of-mine) tonnages prior to processing with as-received moisture content approx. 4%. Reference point is before the rotary breaker.
- 2. Reserves within economic pit based on coking coal price range of CAD\$187-\$207/product tonne and PCI coal price of CAD\$136/product tonne.
- 3. Rounding as required by reporting guidelines may result in apparent summation differences.

# 4. MINING

Given the shallow geology of the resource, all mining at the Crown Mountain Project is open pit. Mining equipment includes excavators, front end loaders, and haul trucks, supported by dozers, backhoes, and blasthole drills. This type of equipment is typical for Elk Valley mining operations, and includes equipment specific to selective mining in certain thinner seams present on the property. The majority (90%) of overburden removal is projected to require blasting.

<sup>&</sup>lt;sup>2</sup> Southern Extension resource estimate is from the March 11, 2014 PFS report. No additional work has completed on this portion of the Crown Mountain deposit since 2014.



Part of the initial screening work on the BFS was to develop break even strip ratio (BESR) mining pits. Stantec accomplished that objective by using costs from the Updated 2017 PFS and revised coal sales price forecasts of US\$164 per tonne for hard coking coal (up from the US\$155/t sales price assumed in the Updated 2017 PFS) and US\$115 for PCI coal (versus US\$110 in the Updated 2017 PFS). This work and the mine design and economic evaluation process that followed, resulted in the identification of project reserves, as are presented in this announcement. The mine plan has been sequenced to extract the low strip ratio North block first, followed by the smaller East block (a subset of the South block, but a distinctly higher quality and discrete mine pit) and ultimately the large South block, from South to North. After pre-stripping, North block coal is mined.

It has been assumed that coal loss and out-of-seam dilution ("OSD") occurs at every rock/coal interface except where partings are mined as part of the ROM product. Evaluation of site-specific conditions, and review of both local and other comparable operations, have resulted in the assumption of coal loss (pit loss) of 0.31m per seam, and concurrent OSD of 0.20m. Best practice selective mining will be employed over much of the Crown Mountain project area. ROM cutoffs for estimated plant yield result in any coking coal seams under 15 percent yield and PCI under 25 percent yield being treated as waste.

Mined ROM coal is hauled from the pit to a rotary breaker where some of the larger size OSD is removed.

In the BFS, Stantec incorporated the findings from the previous studies and the current standard of practise to develop the mine plan. This mine plan has been adopted for the Yield Optimisation Study. Major mining equipment includes:

- A 28m³ bucket excavators
- A 20m³ bucket front end loader
- A 15m³ bucket front end loader
- A 135 tonne water truck
- 75,000lbs pull down force blast hole driller
- A 850hp dozer
- A 600hp dozer
- A 450hp rubber tyre dozer
- Caterpillar model 24M grader
- Caterpillar model 16M grader
- A 227 tonne electric drive dump trucks
- 36 tonne articulated dump truck
- Western Star model 6900XD+95t trailer (for clean coal haul)
- A 5m³ Backhoe.



#### 5. PROCESSING

As with the majority of Canadian metallurgical coals, a wash plant is required. The BFS located the plant proximate to the mine pits. This accomplishes multiple goals, such as:

- it reduces trucking costs for the ROM material
- it allows plant reject disposal to occur at or near the mine site
- plant reject (high in shales and clays) will be used to act as oxygen depletion zones in the spoil piles, by reducing permeability. The test work shows that limiting oxygen reduces the metal effluent concentrations (metal leaching, particularly but not limited to selenium and nitrates, is an issue in the Elk Valley).

The primary processing method is heavy media cyclone and reflux classifier, supplemented by column cell flotation for fines recovery. A hyperbaric filter is included in the plant design to reduce the product moisture of the fine coal. The CHPP design developed in the BFS has been maintained in the Yield Optimisation Study but resultant plant yields have been increased to reflect increased product recovery due to increased target product ash levels.

The resultant CHPP yield for coking coal product form each pit is summarised in Table 5 below:

Table 5 Modelled Coking Coal Yields - BFS (Jul 2020) & Yield Optimisation Study (Aug 2021)

	North Pit		East Pit		South Pit	
	Product Ash (% ad)	Yield (% ar)	Product Ash (% ad)	Yield (% ar)	Product Ash (% ad)	Yield (% ar)
BFS July 2020	9.5	56.6	9.5	47.0	9.5	41.2
Yield Optimisation Study August 2021	10.5	57.8	10.5	49.7	11.0	47.6

Washed coal will be conveyed down the mountain (3 km) and then trucked approximately 15 km to a stockpile/loadout area where the product will ultimately be loaded on train with a 152 railcars (16,000t capacity) on a new rail loop to be located adjacent to Canadian Pacific's ("CP") existing common-user railway. The loadout facility includes covered storage with a batch weigh bulk loading system for accurate load control and freight cost management.

#### 6. INFRASTRUCTURE

The Project is located in an area with well supported infrastructure for coal mining. Teck operates a total of four coking coal mines in the Elk Valley and general vicinity of the Project: one of these operations is south of Crown Mountain and three are north. As a result, mainline rail, power, supporting communities and services are all nearby.

CP's rail is a combined 18 km from the wash plant: 3 km of overland conveyor and a 15 km truck haul.

Power lines will be extended 14 km from the main transmission line to the preparation plant. A natural gas line of similar length is planned to provide heat for the plant, shop, and support facilities.



Existing access roads to the Project will be upgraded: these roads have already been used for logging operations and product transportation by a local quarry.

Water supply will originate from two sources a sediment pond located in the Alexander Creek drainage and storage pond to be located adjacent to Grave Creek. Seasonal flow studies and estimated Project water requirements indicate this is a viable solution.

The towns of Sparwood, Elkford, Fernie, and Crowsnest Pass will be the source of the Crown Mountain workforce, and house numerous mining-related service industries.

#### 7. TRANSPORT

Once loaded onto rail, carrier CP will transport the coal to either Westshore Terminals ('Westshore') near Vancouver, or to Ridley Terminals ('Ridley') near Prince Rupert, where it will be loaded into ships. Westshore, at a distance of approximately 1,200 km, is the terminal of choice for Crown Mountain coal, with an estimated transportation cost (combined rail and port) of US\$29.25/tonne.

Capacity expansion continues at the Vancouver ports. Teck has recently completed an expansion project at the Neptune Terminal where they have publicly they have commenced shipping coal from, having moved the majority of their previous volume from Westshore. As a result, it is believed Westshore will have available capacity when the first coal from Crown Mountain is ready for shipment. All clean coal production from Crown Mountain is assumed to be exported. Coal is sold FOB vessel.

#### 8. ENVIRONMENT AND REGULATORY APPROVALS

Development of the project will require approval from both Provincial and Federal regulators. Jameson is preparing an Environmental Assessment (EA) application to meet the requirements of both jurisdictions. The EA application is being developed to meet the requirements detailed in the Application Information Requirements. All technical assessment required for the EA application has now been completed and following completion of a regulatorily required step in the ongoing engagement with key First Nations groups, it is expected the EA will be submitted to Provincial and Federal Regulators in the December Quarter 2021.

Once submitted, the EA will be subject to a public comment period and technical review by Regulators, First Nations groups and other key stakeholders. The duration of the assessment and review process is dependent upon the extent of any subsequent Information Requests and ongoing engagement with stakeholders. Additional mine permits must be acquired by the Company before construction can commence.

# 9. FIRST NATIONS, GOVERNMENTAL AND THIRD-PARTY ISSUES

Crown Mountain is located in traditional First Nations territory. The Ktunaxa Nation Council ('KNC') are sole rights and title holders to the Crown Mountain Project. Jameson meets regularly with the KNC and has established a policy of close cooperation and open communication as the project moves forward. There are a number of other First Nations that have rights and interests for the Project area. First Nations are intimately involved in the EA Application and mine permitting process through the referral and consultation routines established between First Nations, Federal and Provincial governments. It is incumbent on the Province, and in turn Jameson, to understand and address the issues brought forward by First Nations.



Jameson representatives have consulted frequently with First Nations since acquiring the original option on Crown Mountain, and will continue to do so during permitting, construction, and mine operation.

In addition to First Nations, there are governmental and private entities that have certain interests with respect to land use and can be expected to participate in the permitting process through referral and comment. Such entities include but are not limited to, local governing authorities and special use organizations such as recreational clubs, etc.

The Company has previously met with the local governments (councils, mayors) of all the nearby towns including Sparwood, Elkford, Fernie, and the District of Crowsnest Pass. Through the EA development process, Jameson has also had discussions with non-governmental organisations regarding their special issues and concerns.

All mining and coal processing activities, including refuse and spoil disposal, will occur on Crown land now controlled by Jameson via Coal Licenses. The water supply, access and haulage roads, and preferred rail loop/loadout site are on property controlled by one or more third parties. It is assumed in the BFS that the necessary access and surface disturbance rights will be acquired without major issue. Certain preliminary documents such as road use agreements and limited access agreements have been in place for several years.

#### 10. COAL PRICING

Benchmark Coal Price forecasts used in the Yield Optimisation Study remain the same as that in the BFS. The benchmark Hard Coking Coal price is assumed to be USD165/tonne for the life of the project. The assumed received price for the various coal products sold form the project is shown in Table 6 below:

Product Type

Life of Mine Production

North and East pits

Hard Coking Coal

24.7Mt

USD 165/t

USD 146/t

PCI Coal

3.8Mt

USD115/t

USD112/t

Table 6 - Coal Price Assumptions (USD)

#### 11. CAPITAL EXPENDITURE

The Total Pre-Production Capital expenditure to support the mining and processing operation has been estimated in the BFS and Yield Optimisation Study to be US\$352 million (CA\$469m) as detailed in Table 7 below.



Table 7- Pre-Production Capital Expenditure (\$M)(as at July 8, 2020)

Pre-Production Capital*	US\$
Mobile Mining Equipment	92
Wash Plant and Coal Handling Facilities	102
Infrastructure (rail load-out, roads, power, offices, shop etc)	78
Pre-Strip and Indirects	37
SUBTOTAL – CAPITAL	309
Owners costs	9
Reclamation Security	2
Contingency	31
TOTAL CAPITAL	352

<sup>\*</sup>Capital Expenditure has been converted from CAD to USD at 0.75

Note: Totals may be off due to rounding.

The BFS and Yield Optimisation Study include provision for sustaining capital of US\$199 million (CA\$265m) across the life of the mine.

## 12. OPERATING COSTS

Mine operating cost estimate were developed in the BFS to consider all site-based aspects of the mining operation, (including coal processing, coal and waste loading and haulage, topsoil salvage and replacement, road maintenance, water management, reclamation and site administration) as well as all off-site costs (including rail and port charges, marketing, royalties and corporate overhead costs).

The unit rates used in the Yield Optimisation Study are unchanged from those used in the BFS and so are reported on a 2020 basis.

The total operating costs per product tonne are reduced due to the increased product tonnage resulting from the Yield Optimisation Study. The differences in operating costs are summarised in Table 8 below.



Table 8 – FOB Costs (excludes sustaining capital)

FOB Operating Cost* (USD)	Unit	BFS Jul-20	Yield Optimisation Study Aug-21
ROM Strip Ratio	BCM:ROM tonne	4.7:1	4.7:1
Clean Coal Strip Ratio	BCM:t clean coal	10.3:1	9.5:1
Operating Costs – clean coal			
Waste	USD/t	31.94	29.48
ROM Coal Production	USD/t	6.77	6.25
Preparation Plant	USD/t	10.02	9.25
Clean Coal Handling	USD/t	2.34	2.16
Reclamation	USD/t	0.14	0.13
Minor Equipment Operating Costs	USD/t	1.00	0.92
Free on Rail (FOR)	USD/t	52.22	48.19
Marketing and Corporate	USD/t	1.01	1.01
Administration	USD/t	5.90	5.45
Rail and Port Charges	USD/t	29.25	29.25
Royalty	USD/t	4.79	5.51
Free on Board ('FOB') Cost	USD/t	93.17	89.41

<sup>\*</sup>Operating costs have been converted from CAD to USD at 0.75

#### 13. PROJECT FINANCING

All material assumptions for the BFS and Yield Optimisation Study are outlined in this report. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the BFS or Yield Optimisation Study will be achieved.

Funding for pre-production capital expenditure in the order of US\$352 million (which incorporates a 10% contingency allowance) will be required if the company purchases all of the mobile mining equipment, shop, washbays and ancillary equipment. The scenario presented in the BFS and Yield Optimisation Study assumes all capital items are purchased. As part of future optimisation studies, and as the project gets closer to investment decision alternative funding arrangements (e.g. leasing or contract mining) for the aforementioned items will be examined, as is common practice in the mining industry. This has the potential to reduce the pre-production capital requirement.

Jameson currently has an agreement (for further details see ASX announcement released 29 June 2018 entitled Jameson Reaches Agreement with Strategic Partner to Advance Crown Mountain) with Bathurst Resources Limited ('BRL') whereby, at BRL's discretion, once the BFS is complete and the required permits have been issued BRL has the option to sole fund the first CA\$110m of construction costs in the form of cash to take their shareholding in NWP Coal Canada Ltd to 50%. CA\$2.6m of this CA\$110m has been advanced already under BRL's Tranche 2 option advance leaving CA\$107.4m at their discretion.



The Company anticipates that the source of funding for the capital investment will be any one, or a combination of, equity, debt, the use of contractors (to reduce overall preproduction capital requirements) and pre-paid offtake from the project. Whilst no final decision has been made in that regard, the financial model assumes a maximum A\$280 million in debt (representing a 60:40 debt: equity split, also assumed in the risk adjusted Weighted Average Cost of Capital ('WACC')).

The Company has undertaken discussions with potential debt financiers for the project. As noted above, the financial model provides for debt capacity and is designed to meet the expectations of any providers of potential debt funding for their due diligence and other internal requirements. The Company cautions that any funding by way of an equity issue may be dilutive to existing shareholders.

#### 14. KEY RISKS

The material risks identified in the BFS are listed below:

- Market Risk: The Stantec economics are based on pricing forecasts from a reputable and respected sources however there is no guarantee these forecasts will prove accurate.
- Coal Quality: While the historical 2013 exploration program has provided what is believed to be reliable and detailed coal quality information, that was supported by the results from the 2018 exploration program; there remains some risk until actual sample shipments have been made from Crown Mountain to prospective customers and accepted as compliant to their specifications.
- Plant Yield: Significant information on coal washability was acquired during the summer 2018 bulk sampling and washability evaluation program. This data is deemed to be sufficient for BFS level engineering. Plant yield has been specifically estimated for each mining area (North, East, and South).
- Environmental/Permitting: The EA application is being developed to meet the requirements detailed in the Application Information Requirements (AIR) issued in April 2018 for the Crown Mountain project. While the environmental base line program (much of which is completed, some of which is ongoing), and modelling efforts to support the EA Application has greatly expanded the knowledge base at Crown Mountain, NWP is not in a position at this time to accurately determine the government's decision to what environmental and mining permits NWP may in the future submit. Further, the siting of certain infrastructure is subject to ongoing environmental studies and the cooperation of the parties controlling the respective areas
- Port: At this time, it appears likely that sufficient port capacity, based on the completed expansion of Neptune Terminals, will exist once Crown Mountain commences operation. However, there are several other coal projects under evaluation in western Canada which also contemplate export. Jameson does not at this time hold a contract for port capacity. Until a contract is executed, there remains a risk associated with this category. In addition, should a contract be signed, a new risk may be present if the contracts contain any economic penalties for not meeting committed tonnages, such as take-or- pay stipulations.



- Mining Risk: The assumptions regarding the mining operation are based on exploration results and experience in similar geo-mining conditions by Stantec.
  - Equipment selection and performance are based on assumptions believed to be suitable for the Project, however, there is no guarantee the results predicted in the BFS will be achieved should excursions from the assumptions occur.
- COVID-19: the potential adverse impact of the Covid-19 pandemic (Covid-19) on future Project development and efficient operations. Consideration, is and will continue to be, given to mitigation measures including using wider ranges for the stress testing of business scenarios, project economics, consideration of alternate fundraising strategies and establishing Covid-19 management protocols during Project development and operation.



#### COMPETENT PERSON STATEMENT

#### Resource Estimate

The information in this ASX announcement that relates to the coal resource estimate of the Crown Mountain Coal Project developed in 2020, accurately reflects information prepared by Mr. Ivan Minev, P.Geo., who is a competent person (as defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves). The information in this public statement that relates to the Coal Resource Estimate of the Crown Mountain Project Coal Project is based on information resulting from work carried out by Stantec Consulting Limited. Mr Minev is a Member of a Recognised Overseas Professional Organisation (ROPO) included in a list promulgated by the ASX from time to time, being the Association of Professional Engineers and Geoscientist of Alberta. Mr Minev is an employee of Stantec Consulting Limited 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 a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Minev consents to the inclusion in the document on the matters based on his information in the form and context which it appears.

#### Reserve Estimate and Bankable Feasibility Study

The information in this ASX announcement that relates to the coal resource and reserve estimate and bankable feasibility study of the Crown Mountain Coal Project developed in 2020, accurately reflects information prepared under the supervision of Mr. Sean Ennis, P.Eng., who is a competent person (as defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves). The information in this public statement that relates to the Coal Resource Estimate, Coal Reserve Estimate and Bankable Feasibility Study of the Crown Mountain Project Coal Project is based on information resulting from work carried out by Stantec Consulting Limited. Mr Ennis is a Member of a Recognised Overseas Professional Organisation (ROPO) included in a list promulgated by the ASX from time to time, being the Engineers and Geoscientists of British Columbia. Mr Ennis is an employee of Stantec Consulting Limited 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 a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Ennis consents to the inclusion in the document on the matters based on his information in the form and context which it appears.

#### **Production Targets**

The Mineral Resources and Ore Reserves underpinning the production targets and financial information included in this announcement were prepared by Messers Minev and Messrs Ennis respectively in accordance with the requirements of the JORC Code. Messrs Minev and Messrs Ennis respectively consent to the inclusion in the report of the matters based on their information in the form and context in which it appears. The production targets and forecast financial information in this announcement are underpinned by Measured (76.84%) and Indicated (23.16%) Resources.

# TABLE 2.1 NWP COAL CANADA LTD. AND JAMESON RESOURCES LIMITED CROWN MOUNTAIN COAL PROPERTY JORC CODE 2012 EDITION

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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 downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Reverse circulation ("RC") and large diameter core ("LDC") drilling was used to collect samples.</li> <li>The samples from RC drilling were collected on 0.5m intervals as soon as coal zones were reached. Drilling was stopped between each sample for dewatering and to allow accurate interval separation.</li> <li>Sample bags were assigned with hole and individual sample numbers, ziptied and stored in heavy duty plastic tubs for transportation to laboratory.</li> <li>For LDC drilling, seam composite samples were collected from the entire coal zone for all coal zones ≥0.5m. Partings greater than 0.5 m true thickness were sampled and analyzed separately from the coal samples.</li> <li>The top and bottom 0.2m of rock in contact with the coal zone were sampled and analyzed for use in out-of-seam dilution evaluation. In addition, coal seams marginally below 0.5m were sampled for separate analysis but are not currently used in the coal quality model.</li> <li>For the coal quality assessment only samples from LDC drilling were used.</li> <li>A suite of geophysical logs, including density, gamma, resistivity, neutron, temperature and drill hole deviation were run both within drill pipe and in the open hole where ground conditions permitted.</li> <li>Sample was collected in polywoven cloth and/or high strength polyethylene bags on approximately 0.5 metre intervals.</li> </ul>

Criteria	JORC Code explanation	Commentary
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).	<ul> <li>In 2012 NWP Coal Canada Ltd. (NWP Coal) undertook an exploration drilling program which included 40 reverse circulation drill holes with a cumulative total drilled meterage of 5,707 m.</li> <li>In 2013 NWP Coal undertook an exploration drilling program which included a total of 6 RC drill holes and 7 LDC (150mm) core holes with a cumulative total drilled meterage of 1,653 m.</li> <li>The 2018 NWP Coal exploration program consisted of 33 drill holes with a cumulative total drilled meterage of 4,711 m. The drilling program included 16 LDC holes, 10 RC holes, as well as seven small diameter (75mm) core (SDC) fully cored geotechnical holes.</li> <li>LDC holes were twinned from new or existing pilot holes and were drilled vertically. All coal intervals were cored. In 2013, selected non-coal intervals were cored for geotechnical purposes.</li> <li>SDC holes - in 2018 seven holes were completely cored for geotechnical purposes.</li> <li>RC holes were drilled using a conventional face hammer, PDC or tri-cone drill bit.</li> </ul>

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Core recovery in the coal intervals from the LDC holes was 95% in 2013 and 89% in 2018 on average basis. Expected depth to coal seams was known from the geophysical log of the RC pilot hole. The driller was advised prior to reaching the top of the seam. Core catcher tools were used through less competent coal zones to ensure maximum recovery.</li> <li>For the majority of LDC holes, all of the coal seam recovered was submitted to a laboratory for coal quality test work.</li> <li>2012 RC samples were largely wet and passed over a static 100 mesh screen. 2013 RC samples were passed over a 325-mesh vibrating screen to ensure most of the fine coal was retained and dewatered to the extent practical. The 2018 RC holes were largely for pilot purposes to guide LDC drilling and not all were sampled (selected holes were sampled over a 325-mesh vibrating screen).</li> <li>Limited coal was recovered from the SDC geotechnical holes: the target for that drilling was non-coal intervals, and coal recovery was not an objective.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All core was photographed immediately following separation of the split barrel at the rig and also following mark-up.</li> <li>Core was geologically and geotechnically logged before sampling and shipment to laboratory.</li> <li>All holes were geologically and geophysically logged.</li> <li>A suite of geophysical logs, including density, gamma, resistivity, neutron, temperature and drill hole deviation were run both within drill pipe and in the open hole where ground conditions permitted.</li> <li>All geophysical tools were calibrated by the logging company (Century Wireline) using their internal calibration procedures.</li> <li>Geophysical logs were analysed extensively and used to confirm and correct geological logs. Validation of geological logs against geophysics were undertaken to ensure accuracy.</li> </ul>

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second- half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>In 2012 and 2013 all core coal samples were bagged and placed into heavy duty plastic tubs on-site before being transported to Birtley Coal &amp; Minerals ("Birtley") in Calgary for coal quality test work. In 2018 the bagged samples were stored in a refrigerated trailer before and during transport to Birtley.</li> <li>Roof and floor dilution samples were also collected, and all collected materials were sent to the laboratory for test work.</li> <li>Core samples from the roof and floor along with selected zones of interburden were retained for metal leaching and acid rock drainage analysis. The British Columbia Ministry of Energy and Mines and Environmental Assessment Office (EAO) requires this data as part of the environmental approvals process.</li> <li>All remaining core sample (non-coal) from 2013 was retained in wooden boxes on pallets at each drill site within project area. Those samples were shipped to a geochemical laboratory in 2018 for analysis. There are no core samples remaining on site.</li> <li>The majority of RC sample collected through the coal zones were retained.</li> <li>Birtley complies with ASTM Standards for sample preparation and subsampling.</li> <li>The collection of LDC ensured sufficient bulk sample was retained for all the required coal quality test work.</li> </ul>

# 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 levels of accuracy (ie lack of bias) and precision have been established.
- Birtley adheres to ASTM and ISO preparation and testing specifications and has Quality Control processes in place. These processes include using control samples and running duplicate runs of samples, inclusion of blind samples for checking of instrument and operator repeatability and running quality control checks before and after every batch of samples to ensure the instrument is performing within tww standard deviations.
- Birtley adopts standard Quality Assurance procedures participates in the International Canadian Coal Laboratories Round Robin Series (CANSPEX) since its inception.
- Select samples from the 2018 program were forwarded to two other laboratories (SGS Delta and CanmetENERGY) for a comparison on raw ash and FSI. Generally, Birtley and SGS FSIs were similar and any variation between their two datasets was random not biased in one direction. Canmet FSIs were generally higher than both SGS and Birtley. There was one raw coal sample where the difference in FSI between the three labs was 2.5. This was likely due to a subsample error on Birtley's account.
- Clean coal sample blends of the North and South Blocks were analysed both
  at Birtley Coal and CanmetENERGY as part of a mini 'round robin' check. The
  results from both Birtley and CanmetENERGY are very similar for all analyses
  and within the repeatability criteria for the standard.
- Geophysical tools were calibrated by the logging company Century Wireline using their internal calibration procedures.
- Petrography analysis in 2013 were completed by CoalTech Petrographic Association of Pennsylvania in 2012. The laboratory follows ASTM Standards D2797, D2798 and D2799.
- In 2018, Pearson Coal Petrography completed the petrographic analyses on this project. The laboratory follows ISO 7404/5 for testing and reporting of Vitrinite Reflectance and ASTM D2799 and ISO 7404-3 for testing and reporting of Maceral Analysis. Pearson undertakes regular recalibration of their photometers, they use two methods of determining vitrinite

Criteria	JORC Code explanation	Commentary
		reflectance to ensure accurate results and they run monthly internal round robin testing between their laboratories worldwide. The lab also participates in the CPA Round Robin each quarter. Each petrographer is accredited by the International Committee of Coal and Organic Petrographers.  • Many levels of analysis results verification are included in the ASTM standards relating to coal quality analysis.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>All LDC holes are twins of previously drilled RC pilot holes. All LDC and RC holes have geophysical logs.</li> <li>The geophysical logs were thoroughly reviewed, and the provided interpretation of the seam and rock band thicknesses and depths were verified by Stantec.</li> <li>Sample and coal quality results were verified and summarized by NWP Coal. Stantec validated the provided coal quality results summary by cross-checking them with the original laboratory reports.</li> <li>No adjustments were made to the coal quality data results used in coal quality assessments; they were reported as received from the laboratory.</li> <li>Coal quality data from the lab is stored in electronic format, and then transferred to a database.</li> </ul>

Criteria	JORC Code explanation	Commentary
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All drill hole and trench locations drilled or excavated in 2012, 2013 and 2018 were surveyed by external licensed professional contract surveyors Garrett Winkel Land Surveying Ltd after completion.</li> <li>Holes are surveyed in UTM NAD83 CSRS datum with geodetic (sea level) elevation.</li> <li>LiDAR topographic survey data with a 1m by 1m spacing was used to create gridded topographical surface.</li> <li>Horizontal Accuracy, 95% or 2σ 30cm</li> <li>Fundamental Vertical Accuracy (on flat hard surfaces), 95% or 2σ 15cm</li> <li>The 1979 drill hole locations were acquired from the 1979 Coal Assessment Report coordinates and converted to the current UTM grid.</li> <li>The 1969 drill hole locations were acquired from the available drill hole location maps in 1979 Coal Assessment Report coordinates and converted to the current UTM grid.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Drill holes were nominally spaced at 80m in the North Block where geology is classified as Complex and at 180m spacing in the South Block where geology is classified as moderate.</li> <li>A total of 12 trenches were excavated using a backhoe. Coal seams exposed were surveyed and provided additional data points used to confirm the geological model.</li> <li>The data spacing of the coal intersections is considered sufficient to give accurate control to the resource model and give the required confidence to the resource areas.</li> <li>LDC coal quality samples were individually analysed in 2013 on a per seam basis. In 2018, where multiple LDC holes were drilled on a pad, those samples were composited by seam and then analysed. These seam samples were then composited to form representative blends.</li> </ul>

Criteria	JORC Code explanation	Commentary
Orientation	Whether the orientation of sampling achieves unbiased sampling of	The orientation and spacing of the drill hole locations are deemed to be
of data in	possible structures and the extent to which this is known, considering the	suitable to detect geological structures and coal seam continuity within the
relation to	deposit type.	resource area.
geological	If the relationship between the drilling orientation and the orientation of	
structure	key mineralised structures is considered to have introduced a sampling	
	bias, this should be assessed and reported if material.	

Criteria	JORC Code explanation	Commentary
Criteria  Sample security	• The measures taken to ensure sample security.  • The measures taken to ensure sample security.	<ul> <li>Core when removed from the borehole remains in the core splits until identified and photographed.</li> <li>The coal samples are placed into a heavy plastic bag. A uniquely numbered sample tag, which came in triplicate, was then marked with the hole ID, date and sample interval and placed inside a small sandwich bag and then placed inside the heavy plastic bag containing the coal. This heavy plastic bag was then placed inside another heavy plastic bag (double bagged) and the hole ID and sample ID was then marked on the outside of the outer bag using a permanent black marker. A second sample tag was then secured to the outside of the outermost plastic bag when securing the bag in a closed position. The third sample tag was kept by the geologist. Then the samples are placed in heavy duty sealed plastic tubs (2013) or a secure refrigerated trailer (2018).</li> <li>Samples are transported to laboratory on a regular basis approximately corresponding to the completion of each drill hole. A list of samples is created, and a receipt is provided by the local courier.</li> <li>Immediately after bagging and tagging, the sample was weighed and the weights, sample IDs and hole number was added to a chain-of-custody form.</li> <li>The chain-of-custody form is first audited by on-site personnel for completeness and accuracy and then it was shipped with the samples and audited by the laboratory upon unloading.</li> </ul>
		The chain-of-custody form is first audited by on-site personnel for completeness and accuracy and then it was shipped with the samples and

Criteria	JORC Code explanation	Commentary
Audits or reviews	The results of any audits or reviews of sampling techniques and data.  The results of any audits or reviews of sampling techniques and data.	<ul> <li>In 2012 and 2013, Jameson together with Norwest Corporation and Birtley Coal &amp; Minerals Laboratory were responsible for implementing and developing the sampling techniques and data capture.</li> <li>In 2018, the sampling techniques used to sample LDC holes was consistent with the previously established sampling techniques utilized in 2013 for the LDC holes except that in 2018, rock partings less than 0.5m true thickness were sampled with coal unless the logistics of the total weight of the sample or bag size limited this action.</li> <li>Birtley adheres to ASTM and ISO preparation and testing specifications and has Quality Control processes in place.</li> <li>All drill hole and analytical data is stored and retained by Jameson and Stantec in a digital format in both Microsoft Excel or Microsoft Access. Jameson has retained copies of all analytical reports and data in excel format as well as pdf copies of the signed official laboratory certificates. Birtley also retains all its analytical reports.</li> <li>In-field sampling techniques have been audited every drilling campaign by the Competent Person from Norwest Corporation and Jameson in 2012 and 2013, as well as by Jameson, Stantec and Bathurst Resources Limited in 2018. An extensive review was undertaken by several geologists, of the coal seam picks and correlation was done in 2018 to further check previous geological correlations.</li> </ul>

# Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>NWP Coal Canada Ltd ("NWP Coal") has a 90% interest in the ten granted coal licenses covering the Crown Mountain project. The licenses 418150, 418151, 418152, 418153, 418154, 418966, 419272, 419273, 419274, and 419275 cover a combined area of 5,630 ha.</li> <li>NWP Coal acquired certain coal license rights from Robert J Morris in 2011. On completion of the transaction, Jameson acquired a 90% interest in the property, the remaining 10% being retained by Mr Robert J Morris as an undivided 10% interest (non-profit sharing).</li> <li>NWP Coal holds an option to acquire the remaining 10% interest. The option agreement requires that Jameson pay an annual rental fee of C\$100,000. If Jameson elects to exercise the option and acquire the remaining 10% interest in the property, it is obliged to pay Mr Robert J Morris a fee of C\$2,000,000 which may take the form of a series of staged payments.</li> <li>In September of 2019, a subsidiary of Bathurst Resources Limited elected exercise the Tranche 1 Option to increase their investment in NWP Coal Canada Ltd from 8% to 20% from Jameson Resources Limited.</li> <li>Bathurst Resources Limited has an option to increase that interest to up to 50% from Jameson Resources Limited provided certain future milestones and payments occur (for further details of the agreement please refer to the announcement released to the ASX on 29 June 2018 entitled 'Jameson Reaches Agreement with Strategic Partner to Advance Crown Mountain.'</li> <li>The only other payment that the property is subject to is the annual rental fee and statutory production royalties to the BC Provincial government.</li> <li>The licences are in good standing and NWP Coal is unaware of any impediments to the security of tenure.</li> </ul>

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>In 1969, Crow's Nest Industries Ltd. completed a drilling program of 11 holes for a total of 1,669m. Geophysical logs and survey data of the hole collars are the only records that remain from this drill program.</li> <li>In 1979, Crowsnest Resources Ltd (Shell Canada) completed a drilling program of 7 holes for a total of 912m. Core drilling was attempted in two shallow holes.</li> <li>In 1980 and 1981, exploration activities included detailed geological mapping at scale 1:5000 and hand-dug trenches</li> <li>Only minimal coal quality data is available from the historical exploration programs.</li> </ul>

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Crown Mountain Coal project lies within the Elk Valley coal field in southeast British Columbia, Canada.</li> <li>The property is divided into three structural domains with separate geological attributes. The domains are referred to as the North Block, South Block and the Southern Extension Block. The Crown Mountain thrust fault ("CMF") separates the North Block from the South Block. The Southern Extension Block is not part of the BFS.</li> <li>Coal seams are hosted within the Jurassic to Lower Cretaceous Mist Mountain Formation. The coal bearing Mist Mountain Formation is underlain by the Morrissey Formation which includes the regional cliff forming Moose Mountain Member.</li> <li>Drilling has intersected three principal seams, named Seam 8, Seam 9 and Seam 10. The Seam 8 and 10 consist of three major plies – Upper, Middle and Lower. The term major seam has been defined to include all seven seams in order to distinguish them from other coal horizons referred to as rider seams.</li> <li>The seven major seams have combined average net coal zone thickness of 28.0m in the North Block and 14.5m in the South Block.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul> <li>If the exclusion of this information is justified on the basis that the</li>	<ul> <li>At Crown Mountain, 104 holes have been drilled on site totaling 14,653 m. NWP Coal drilled 33 holes in 2018, 13 in 2013, and 40 in 2012. There are 18 holes drilled by others between 1969 and 1979. Some of the holes were drilled as angle holes.</li> <li>All of the holes excluding CMR69-25 and CMR-79-102 were used in the 2019 resource model. These drill holes were re-drilled and drill holes CM11-03 and CM12-18 are used instead.</li> <li>Twelve trenches, 39 outcrop points with coal description and 203 outcrop points with dip and dip direction data were used in the 2019 resource model development.</li> </ul>

Criteria	JORC Code explanation	Commentary
	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.	<ul> <li>A full list of the drill holes including easting, northing, elevation, dip and azimuth, downhole depth and coal zone combined thickness and hole length was reported to the ASX on 2 August 2019 entitled 'Crown Mountain Coal/Coke Testing Program Complete: Hard Coking Coal Confirmed (Updated)'.</li> </ul>
Data aggregation methods	<ul> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>For Crown Mountain, a minimum coal thickness of 0.5m and a maximum non-separable parting thickness of 0.5m was used for coal and waste discrimination</li> <li>The core sampling was completed by including all coal intervals greater than 0.5m and rock parting less than 0.5m.</li> <li>Rock of approximately 20cm thickness was sampled above and below the coal seams to evaluate the out-of-seam dilution.</li> <li>Rock parting greater than 0.5m, roof, and floor samples were analyzed separately from the coal.</li> <li>The RC samples were assembled from the 0.5m samples based on the sample description and the seam limits of the coal interval from the geophysical logs.</li> <li>The RC and trench sample results were not used in the coal quality assessment.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true</li> </ul>	<ul> <li>All 2013 and 2018 holes were drilled vertical. Drill holes had a natural tendency to deviate from vertical because of the varying dips of strata and variance in competency between coal seams and harder sandstone partings. Downhole survey was completed on every hole and was loaded into the model so the most accurate location of the coal intercepts were used.</li> <li>Differentiation of coal mineable thickness from separable waste intervals is</li> </ul>

Criteria	JORC Code explanation	Commentary
	width not known').	based on true thickness. Using the down-hole survey for each drill hole, in combination with footwall polylines of each seam, an algorithm was used to convert down-hole lengths into true thickness for each of the intervals in a given coal zone.
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.	Diagrams drawn to JORC listed requirements were prepared in 2020 by Stantec. Diagrams include location maps, drill hole location plans and appropriate cross-sectional views and are included in Diagrams 1-7 in this announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Stantec completed a resource estimate for Crown Mountain based on all available information deemed relevant.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Crown Mountain seams appear to have higher run of mine (ROM) ash than other operating mines in the Elk Valley based on published information. The higher ROM ash results in lower plant yield in some areas of the mine and this is reflected in the modelled plant yield.</li> <li>Groundwater has been encountered in drill holes. 26 ground water monitoring stations (standpipes) have been installed in selected LDC holes or in drilled-for-purpose monitoring wells in and outside of the proposed pit limits. The groundwater information has been included in the EA submission.</li> <li>As a requirement of the Environmental Assessment process, significant rock core and cuttings have been collected from the 2013 and 2018 drilling campaigns to assess potential metal leaching and acid rock drainage issues. The consultant (SRK) concluded from the 2013 analyses the Crown Mountain</li> </ul>

Criteria	JORC Code explanation	Commentary
		overburden has similar leaching characteristics to the other nearby operating mines in the Elk Valley: geochemical laboratory analysis of the 2018 samples has been completed. Retained samples are stored indoors in a warehouse.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Further drilling will be required to upgrade the resource status in the Southern Extension from Inferred to Indicated or Measured. That area is not included in the PFS or the BFS.</li> <li>Additional in-fill drilling will be completed as part of the development work to support a short-range mining coal quality model prior production commencing.</li> <li>Additional geotechnical data is required to support detailed design for the rail loadout (RLO), access road widening, water management structures, natural gas pipeline and powerline.</li> </ul>

# 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	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Data is recorded manually onto log sheets in the field. Information is entered into the coal exploration database. Data validation checks are undertaken both internally and by external consultants before the data is used for modelling purposes.</li> <li>During modeling, several data-check routines were executed, and any exceptions addressed.</li> <li>The geological and analytical data is kept in the relational database software (MS Access) to ensure the data integrity.</li> <li>The provided geophysical logs for these drill holes have been thoroughly reviewed by NWP's independent geological consultants and the provided interpretation of the seam and rock band thicknesses and depths have been verified by Stantec.</li> <li>The geological sample intervals and analytical coal quality data for the 2018 drill holes was provided in a form of summarized datasheets as well as original Laboratory Reports. The information in the datasheets was cross-referenced with the original Laboratory Report for more than 10% of the data.</li> </ul>

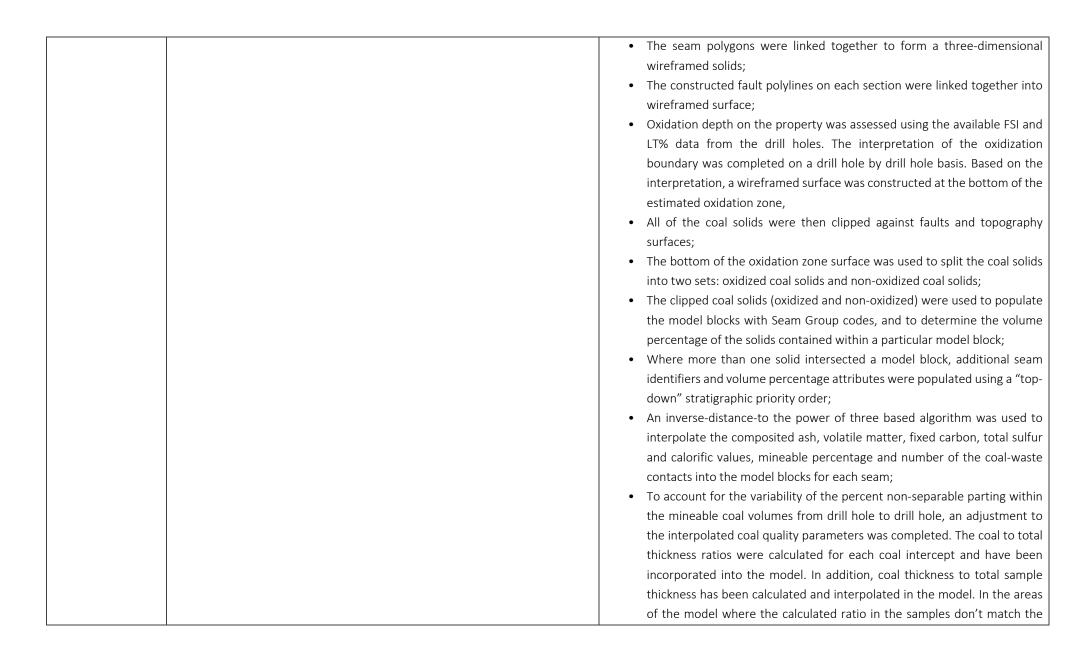
Criteria	JORC Code explanation	Commentary
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>The Competent Person from Stantec conducted a site visit during the 2018 drilling program. The Competent Person confirmed that the drilling and sampling procedures for the establish protocols were being followed and interviewed field personnel during his visit.</li> <li>Ivan Minev P.Geo. Competent Person from Stantec (independent consultant) conducted site visits during the 2018 drilling program.</li> <li>Gordon Chen, P.Eng, John Trygstad, from Stantec (independent consultant) conducted a site visit in July 2019. The purpose of the visit is to review and to verify the site conditions for the mining areas, coal processing plant location, and the clean coal haul road.</li> </ul>
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>Geological interpretation of stratigraphy and seam continuity is at a stage where confidence is high.</li> <li>The most recent interpretation of the overall strata has been undertaken based on the 3D geological model which was updated with the 2018 exploration data.</li> <li>Raw and clean coal quality were modelled as part of the geologic work completed and incorporated into the resource and reserve estimation.</li> </ul>

Criteria	JORC Code explanation	Commentary
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	<ul> <li>The Crown Mountain property is divided into two distinct structural domains separated by a northerly trending thrust fault or CMF. There are three prospects within the project area, the "North Block" which is positioned above the CMF and the "South Block" and "Southern Extension" which are both below the CMF. The "Southern Extension" is excluded from the current study.</li> <li>Strike lengths for each of the three prospects are: North Block – 1.5km, South Block - 4.4km and Southern Extension – 4.1km.</li> <li>The major seams in the North Block are structurally bound within a south plunging syncline, extending from surface to a maximum depth of 155m. Coal seams in the South Block extend from surface to a maximum depth of 150m and are structurally bound within a syncline that has been truncated by the thrust fault and only the east limb of the syncline remains.</li> <li>The Southern Extension is a continuation of the South Block coal measures. Based on structural mapping, there is evidence for increased structural complexity.</li> </ul>

# 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 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.

- The resource estimation for the Crown Mountain project are based on the resource model developed using Hexagon Mining's geological modelling and mine planning software, MinePlan (MineSight). This system is widely used throughout the mining industry for digital resource model development.
- The selected block size was based on the density of the drill hole dataset as well as the requirements for the mining selectivity and bench height of this deposit, in this case being 25m x 25m x 5m (length x width x height).
- The Geological Type is classified (CIM Definition Standards –GSC Paper 88-21). as "Moderate" in the South Block and "Complex" in the North Block. The Southern Extension area has been explored to a much lesser extent than the other two blocks. This area is currently categorized as a "moderate geology type" because it is similar to the South Block that it adjoins to the north.
- The potentially acid generating (PAG) zones are well known in the Morrissey
  Formation, which has been confirmed by the geochemical data collected for
  the EA. The experience at the other Elk Valley mines demonstrate that there
  is overwhelming neutralizing material to offset any potential for acid
  generation.
- There was no grade cutting or capping applied to the geology. All the grade data is used as reported by the laboratories in the geology modelling.
- The interpolated model variables have been mapped and validated with the drill hole data. The drill hole seam thicknesses were compared to the modelled seam thicknesses so that the drill holes were honoured. A statistical approach was used to validate the average seam thickness from the model with the average de-clustered drill hole seam thickness.
- The following procedures were used to construct the 3D block model:
  - The drill hole coal plies from one coal zone have been assigned into seam groups. The seam group's true thickness values were calculated. The calculated true thickness values and the coal footwall polylines were used to construct the top of the seam group and create closed seam polygons on each section;



Criteria	JORC Code explanation	Commentary
		ratio for the drill hole data, then the adjustment to the coal ratios have been made.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.  The desire of the determination of the moisture content.	The tonnages are reported on an Air Dry Basis (adb). The moisture content (adb) is averaging 0.73 % determined from the results of Proximate Analysis laboratory testing, with a minimum value of 0.33% and maximum value of 3.08%.  The second of the se
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	• The resource estimate was made using a minimum seam thickness of 0.5 m. The estimate was used to define potential surface mineable coal in the individual seams and the results were planned for use in examining different mining options.
Mining factors or assumptions	<ul> <li>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.</li> </ul>	<ul> <li>The targeted coal seams at Crown Mountain are suitable for open-cut operations using the truck/shovel mining method. It is expected that the mining conditions at Crown Mountain will be similar to those at the nearby mines which also use the truck/shovel method.</li> <li>Truck/shovel methods have been used successfully in the region for over thirty years and are well-established for extraction of deposits similar to Crown Mountain. Economic and productivity factors at these regional operations are similar to those used to evaluate the Crown Mountain deposit.</li> </ul>

Criteria	JORC Code explanation	Commentary
Metallurgical factors	The basis for assumptions or predictions regarding metallurgical	• In January 2013, the coal quality aspects of Crown Mountain were reviewed by
or assumptions	amenability. It is always necessary as part of the process of determining	independent consultants Kobie Koornhof Associates Inc. using public data from
	reasonable prospects for eventual economic extraction to consider potential	historic exploration, regional quality studies and data from the adjacent coal
	metallurgical methods, but the assumptions regarding metallurgical	mines. They concluded that in the absence of detailed quality data which would
	treatment processes and parameters made when reporting Mineral	allow a definitive classification of these coals, and based on the information
	Resources may not always be rigorous. Where this is the case, this should be	available, the coking coals from Crown Mountain are considered to be similar
	reported with an explanation of the basis of the metallurgical assumptions	in quality or very close to, the premium Canadian coking coals.
	made.	Norwest Corporation made recommendations in February 2013 to undertake
		an LDC drilling program to obtain bulk samples for washability test work to
		determine plant yield as well as develop a definitive understanding of the
		coking properties of clean coal product.
		• It was recommended that two large bulk samples be collected to undergo pilot
		scale washing at Hazen Research in Colorado with the goal to carbonize a large,
		clean sample, washed in water, in the pilot scale coke oven.
		• Results from the LDC test work have been completed by various laboratories
		(CANMET, Birtley, SGS, CoalTech, and Pearson) and have been incorporated
		into the BFS.
		Kobie Koornhof Associates reviewed and commented on the laboratory results
		in 2014 and in 2017.
		The procedures identified above were followed for the 2018 samples as part
		of the BFS.
		<ul> <li>In July 2021, Square Resources reviewed NWP's laboratory clean coal quality</li> </ul>
		test results to estimate price adjustments for high ash product blends within
		the context of current seaborne coking coal markets.

# 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 Preliminary Economic Assessment ("PEA") study showed open-pit mining would commence from the North Pit and advance southwards to the Southern Extension over a 24 year mine life. Waste would be placed as either in-pit backfill as mining is completed or delivered to an external waste dump adjacent to the South and North pits. The PFS reduced the mine life to 16 years primarily due to eliminating the "inferred" resource category from consideration, thus removing the Southern Extension resource area.
- The PEA and PFS showed the wash plant facility located on the west side of the North Pit. It is proposed to deposit plant refuse in the mine rock waste dumps.
   A conventional slurry tailings impoundment is not envisioned for the project.
- The greatest potential impacts of surface mining are likely to be those that affect surface water. In February 2013, Teck submitted the Valley-Wide Selenium Management Action Plan for Teck Coal Limited Operations in the Elk Valley. This action plan addressed the selenium release by the five Teck surface mines. The BFS selenium mitigation plan will place layers of plant rejects (filtered to reduce water content) within the waste rock pile. The layering technique has been shown at the laboratory scale and through modeling, to have the potential to reduce the levels of selenium and nitrate in the surface water that seeps through the waste rock piles. For the BFS, it is assumed that for every 50 m high waste rock lift, a 1m layer of plant rejects will be placed. The 50 to 1 ratio is based on the preliminary testing and modeling results completed by SRK Consulting (SRK). Modeling, based on laboratory studies, demonstrates that a successful implementation of the WRD Layer Cake design at the Crown Mountain Project will result in predicated water quality that would be similar to other operations that have been permitted.
- Environmental baseline studies are well advanced with the BC MOE required two years of monthly water sampling and quality test work achieved in April 2014. In 2016 sampling was reduced from monthly to quarterly.
- Hydrological studies including the installation of 26 down-hole ground water monitoring stations were completed in conjunction with the LDC drilling

Criteria	JORC Code explanation	Commentary
		<ul> <li>program in September 2013. Additional ground water monitoring stations were established in 2018.</li> <li>Rock samples for the purpose of geochemical analysis to evaluate the potential for metal leaching and acid rock drainage have been retained.</li> <li>A comprehensive approach to environmental controls is being developed in the Application for an Environmental Assessment Certificate, which is currently in progress.</li> </ul>
Bulk density	<ul> <li>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.</li> <li>The bulk density for bulk material must have been measured by methods         that adequately account for void spaces (vugs, porosity, etc), moisture and         differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation         process of the different materials.</li> </ul>	Coal density used in the resource estimates was calculated based on the ash value estimated in each model block. The density is reported in air-dry basis. The calculations are based on linear equation developed using Scatter (ash, density) Plot: Density = 0.0105 * Ash + 1.2537.

### 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.
- The Resource Estimate has been prepared in accordance with the requirements of the Canadian National Instrument (NI) 43-101 and the CIM Definition Standards. NI 43-101 is the Canadian equivalent of the JORC Standard.
- The mineral resources are classified as to the assurance of their existence into one of three JORC equivalent categories Measured, Indicated and Inferred. The category to which a resource is assigned depends on the level of confidence in the geological information available (CIM Definition Standards GSC Paper 88-21).
- The coal resources in this report are evaluated taking into account the structural complexity of seam geometry as well as the coal quality variability of the coal seams.
- The level of assurance regarding structural complexity of seam geometry is assessed using the distances to the nearest coal intercept. The following search distances where used for the north block:
  - Structure Class 1 0 to 75 m
  - Structure Class 2 75 to 150 m
  - Structure Class 3 150 to 300 m
- The following search distances were used for the South Block:
  - Structure Class 1 0 to 300 m
  - Structure Class 2 300 to 600 m
  - Structure Class 3 600 to 1200 m
- The following search distances to the nearest valid raw ash sample are used to classify the resources in the North and the South blocks from a coal quality variability standpoint:
  - Coal Quality Class 1 0 to 450 m
  - Coal Quality Class 2 450 to 900 m
  - Coal Quality Class 3 900 to 2400 m
- The coal resources are classified using the lower confidence level of the two, structural and coal quality classes.

Criteria	JORC Code explanation	Commentary
		The Competent Person, Ivan Minev, P.Geol., prepared the estimates, which
		reflect his view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	An internal Company review of the Resource and the associated Technical
		Reports was undertaken prior to public release of this information. The model
		presented reflects review comments.
Discussion of	Where appropriate a statement of the relative accuracy and confidence	The Categories were considered acceptable by the Competent Person during
relative accuracy/	level in the Mineral Resource estimate using an approach or procedure	the classification of the resources.
confidence	deemed appropriate by the Competent Person. For example, the application	The accuracy of resource estimates is, in part, a function of the quality and
	of statistical or geostatistical procedures to quantify the relative accuracy of	quantity of available data and of engineering and geological interpretation, as
	the resource within stated confidence limits, or, if such an approach is not	well as the judgment by the Competent Person.
	deemed appropriate, a qualitative discussion of the factors that could affect	Based on the available geological data, the resource estimate is considered
	the relative accuracy and confidence of the estimate.	reasonable.
	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.	

### 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	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserves.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul> <li>The Coal Resource Estimate effective date is July 8, 2020.</li> <li>The Coal Reserves are inclusive of the Coal Resources stated July 8, 2020.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	In June 2019, Gordon Chen, P.Eng. and John Trygstad, representatives of Stantec visited the site to verify the site conditions for the clean coal haul road, open pit mining area, waste rock pile area, rail-load out area, and the plant site location.
Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul> <li>A pre-feasibility study was completed in 2014 and updated in 2017 to allow for classification of mineral reserves.</li> <li>A bankable feasibility study level resource and reserve estimate were completed (July 2020), which updated the mineral resources and the mineral reserves.</li> <li>A yield update evaluation was completed in July 2021 based on work completed by Stantec, Square Resources and Sedgman.</li> </ul>
Cut-off parameters	The basis of the cut-off grade or quality parameters applied.	The ash/yield relationship developed for each seam determines the economic cut-off for a given mining unit.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	<ul> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (ie: either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (ie: pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources and utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<ul> <li>The method of mining used in the bankable feasibility study is open cut mining, using a fleet of excavators/shovels, loaders, dozers, and trucks consistent with similar operations in the general vicinity of western Canada.</li> <li>The coal tonnage from the pit is reported in run-of-mine (ROM) basis which assumed an as-received moisture content of 4%.</li> <li>Pit slopes and berm width/spacing were determined after review of available geotechnical information. A permit level (detailed) pit wall design report has been completed. Additional geotechnical data will be collected to support future detailed mine planning.</li> <li>Pit optimization was based on a strip ratio of 18.5:1 ROM tonne break even stripping ratio analysis using hard coking coal benchmark price of USD\$165. A coal sales price of USD\$165 per tonne was applied for the metallurgical coal. The prices are converted to Canadian dollars at a USD/CAD exchange rate of USD1.00/CAD0.75.</li> <li>Different coal loss and dilution assumption is used for different mining areas and coal seams due to change in dip of the bedding and the types of the coal to waste contacts. The weighted average of the external seam dilution is 0.22m per seam, and 0.31m per seam for coal loss.</li> <li>Mining recovery is the result of applying the dilution factors above and varies by seam thickness.</li> <li>The minimum mineable seam thickness is 0.5m.</li> <li>Inferred Mineral Resources are excluded from consideration in the Bankable Feasibility.</li> <li>Infrastructure required includes: coal processing and handling facilities, mine shop/warehouse/office/dry complex, electrical power distribution, natural gas pipeline, access road, rail loop and train load out, water management structures and water supply. These items have been included in the capital cost estimate.</li> </ul>

## 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 or novel in nature.
- The nature, amount, and representativeness of metallurgical test work undertaken, the nature of 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?

- Coal processing will be by heavy media washing and froth floatation. The
  process flow was developed by Stantec, using Limn modelling, and
  independently modelled by Sedgman who reviewed the process design and
  undertook plant design and costing for the coal handling and processing plant
  for the BFS.
- Only commercially proven, coal washing processes have been incorporated into the plan. Steam assisted hyperbaric disc filtration has been selected for dewatering flotation product, instead of thermal drying, typically used in the Elk Valley. This technology is relatively new to the coal industry, but is under consideration for other Elk Valley mines.
- A product moisture of 9% is assumed. A product Total Moisture of <7% is predicted ex the CPP from LIMN modelling by Stantec. This level is below the assumed customer specification of 9%, typical for Elk Valley coals, and will allow for some moisture gains in the transportation logistics chain.
- Coal washability testing was performed in 2013/2014 on bulk samples collected in Q3 2013 via large diameter coring. Additional drilling was done in 2018 from which seam composites were prepared and combined in proportion to their occurrence in the deposit for and were used in the 2019 Pilot testing performed by Hazen Research, Inc. It is believed this work, provided representative samples from the project area for pilot washability and flotation testing, and carbonization studies by CanMet. Recovery (plant yield) is 63.4% for North Pit, 52.6% for East Pit and 49.1% for South Pit. This is based on a 10.5% ash for metallurgical coal from the North and East Pit, 11.0% for metallurgical coal from the South Pit, and 10% Ash for PCI coal from all pits.
- Deleterious material (out of seam reject) was assumed to comprise 0.22
  meters per coal seam. In addition, 0.31 meters of coal is assumed lost per
  seam. This is a normal occurrence during the mining process based on
  regional practice.
- A rotary breaker is assumed to remove approximately 6-7 percent of the rock

Criteria JORC Code explanation	Commentary
	<ul> <li>in the ROM material.</li> <li>The 2013 bulk samples, 2018 core drilling and sampling are considered to be representative of the coal deposits in the North and South Blocks, which form the study area for the BFS.</li> <li>The product coal reserve estimation has been based on producing a product that meets specifications summarized in the "210701 Price Assessment Memo – Crown Mountain V2" provided by Square Resources in conjunction with the "Quality and Price Assessment for Crown Mountain Products" report prepared by Kobie Koornhof Associates Inc (2019).</li> </ul>

Criteria	JORC Code explanation	Commentary
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.	<ul> <li>Significant work on environmental baseline and effects assessments have been performed and/or remains in progress to support the Environmental Assessment (EA) submission. The Company submitted an EA Project Description in Q4 2014 and has an approved (April 2018) Application Information Requirements (AIR) portion of the pre-application phase of the EA process. The AIR is valid for three years after approval. There is a process to extend the AIR should it be required. It is anticipated that NWP Coal will submit the EA in Q1 of 2021.</li> <li>Waste rock characterisation was completed by SRK laboratories on selected rock core collected during the 2013 and 2018 drilling campaigns. That study concluded the waste at Crown Mountain is similar to mine rock found at other local mines. No additional evaluation work is required in this area.</li> <li>Jameson has developed a selenium mitigation strategy which focuses on an in-situ mitigation method. This is a novel approach to selenium mitigation and is currently the basis for the EA application and has been incorporated into the mine plan.</li> <li>No approvals have been sought or granted for waste disposal methods todate: this will be part of the EA and Mine Permit application processes.</li> <li>The EA will assess transboundary and cumulative effects. The assessments will include water quality, air quality, terrestrial and aquatic life.</li> </ul>

Criteria	JORC Code explanation	Commentary
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.	<ul> <li>Power and natural gas infrastructure is located within 14 km from the project area and will be extended to site.</li> <li>Rail is within 11 km of the mine site: the BFS provides for construction of a 2.7km long overland conveyor, truck load out bin and 15km haul road, product stockpile area and rail loadout conveyor and a figure 8 rail loop alongside of the existing mainline rail for train loadout.</li> <li>Extensive design work and consultations with various groups have been completed on the proposed rail loop design to avoid some of the land usage issues, including minimizing the impact to a site of cultural and archaeological significance, and to avoid sensitive wildlife habitat.</li> <li>The water supply is approximately 3 km from site. A storage pond will be constructed, and water will be pumped along an overland conveyor route to the plant and mine site.</li> <li>Land is available within the tenured area to construct a coal processing plant and associated facilities. The loadout system is proposed to be constructed on land controlled by others: Jameson has met with that party and discussions are active, however a siting agreement must still be negotiated and executed.</li> </ul>

Criteria	JORC Code explanation	Commentary
Costs	<ul> <li>The derivation or, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specifications, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul> <li>Capital costs for the project were based on actual quotations from vendors and existing comparable data maintained and updated by Stantec in 2019 with input from Sedgman for the CHPP.</li> <li>Unit operating costs for major equipment were based on quotations from vendors and equipment hours calculated by Stantec. Sedgman provided processing cost estimates which are based on quotations from equipment vendors and operating hours and designs developed by Sedgman.</li> <li>Deleterious elements removed in mining are costed the same as ROM material. Some of that material is rejected at the de-rocking station, while the remaining material is processed through the plant: in either case, the appropriate costs are applied.</li> <li>An exchange rate of CAD/USD of US\$0.75 has been used. This rate was based on 2019 average of the CAD to USD exchange rate published by Bank of Canada.</li> <li>Transportation charges were estimated through contact with the applicable rail and port facilities, as well as comparing to publicly available information from competing mines in the same area.</li> <li>No allowance has been made for penalties associated with failure to meet product specifications, which are not already accounted for in the marketing report.</li> <li>Federal and Provincial Income, Carbon Tax on fuel and BC mineral coal royalties have been accounted for. There are no private royalties payable.</li> </ul>

Criteria	JORC Code explanation	Commentary
Revenue Factors	<ul> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity prices, exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity prices, for the principal metals, minerals, and co-products.</li> </ul>	<ul> <li>Long term metallurgical coal price projections are based on sales prices provided by Kobie Koornhof Associates, a recognized expert in price forecasting for coal in conjunction with a revised product specification and discount recommendation for Crown Mountain metallurgical coal blends from Square Resources.</li> <li>Revenue estimates assumed a LOM exchange rate, CAD/USD, of 0.75 and a LOM Low Volatile Matter, Premium Hard Coking Coal Price of US\$165/t.</li> <li>Revenue is based on a LOM split 85% Hard Coking Coal ('HCC') and 15% Pulverised Coal Injection ('PCI')</li> <li>The North and East Block HCC is assumed to achieve full benchmark pricing while the South Block has been discounted by 11.5.% of PLV (\$165/t) due to lower Coal Strength after Reaction ('CSR') and higher phosphorous.</li> <li>The PCI in the North, East and South Blocks has been determined at 97.5% of the Low Volatile Matter PCI ('LVPCI'), prior to any penalty for phosphorous.</li> <li>The South Block is penalised for higher phosphorous compared with the LVPCI specification and has therefore been discounted accordingly.</li> <li>The LVPCI price is based on the 10 year historical relationship between the LVPCI price relative to the Low Volatile Matter, Premium Hard Coking Coal Price.</li> <li>The assumed prices for North and East Block PCI is US\$115/t while the South Block is assumed to receive US\$112/t.</li> </ul>

Criteria	JORC Code explanation	Commentary
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul> <li>The market assessment was performed by Kobie Koornhof Associates in 2019 and Square Resources in 2021 along with publicly available data from numerous sources.</li> <li>The likely market for project output is the worldwide export market for two metallurgical coal products: hard coking coal and PCI coal.</li> <li>The price and volume forecasts were prepared by Kobie Koornhof Associates in Q4 2019.</li> <li>Prices for Crown Mountain metallurgical coal blends were updated in July 2021 to reflect new market research from Square Resources and the higher product ash specification.</li> <li>Testing and acceptance criteria vary by customer. As the project is located in an area that has historically produced high quality hard coking coal for the export market, there is an established knowledge base for the predicted product. However, additional testing will be required as customer agreements are being negotiated. This would not occur until after the Bankable Feasibility Study is completed.</li> </ul>
Economic	<ul> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul> <li>The inputs to the economic analysis are the operating costs, capital cost estimates, transportation costs, tax and royalty rates, and sales revenue. These inputs are sourced from the BFS</li> <li>There is no provision in the BFS for inflation or escalation: all economic data was prepared in 2019 dollars.</li> <li>A discount rate of 10 percent was used for the NPV evaluation.</li> <li>Sensitivities were evaluated to sales price, US/CAD exchange rate, operating cost, capital.</li> </ul>

Criteria	JORC Code explanation	Commentary
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	<ul> <li>NWP Coal has developed a relationship with affected First Nations. There is currently no Impact Benefit Agreement in place with the First Nations.</li> <li>Other key stakeholders include local communities, land owners, recreation groups, and special-interest organizations. Several discussions, both formal and informal, have occurred.</li> </ul>
Other	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</li> </ul>	<ul> <li>Naturally occurring risks include environmental factors such as potential metal leaching issues, ground water, and wildlife concerns. These issues will be addressed during execution of the EA process.</li> <li>There are no material legal or marketing agreements.</li> <li>It is anticipated all required approvals can be obtained to construct and operate a mine within the 36 month timeframe specified in the BFS. There are four other operating coal mines in the area, and Crown Mountain does not possess any unique challenges to the area.</li> <li>Several governmental permits are required before mine construction can begin. These have not yet been applied for; however, the Company has entered the pre-application phase of the EA process, having an approved Valued Components Document ("VCD") and Application Information Requirements ("AIR"). The next significant permitting activity is the formal Environmental Assessment process, which is estimated to take approximately 17 months to receive approval from the time of submission.</li> <li>During that timeframe several other specialized permitting activities will occur. While the Company does not foresee material issues that would preclude the required permits from being issued, there is no guarantee the government will issue the permits.</li> <li>Extraction of the reserve is contingent on governmental approvals. It is also contingent on successfully constructing a rail loadout facility on privately owned land (Teck) or an alternate location.</li> </ul>

Criteria	JORC Code explanation	Commentary
Classification	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of probable Ore Reserves that have been derived from the Measured Mineral Resources (if any).</li> </ul>	<ul> <li>The basis for reserve classification is the NI43-101 and JORC 2012 reporting requirements.</li> <li>The Competent Person (Sean Ennis, P. Eng. – Stantec) is in full agreement with the results and has so indicated by written consent.</li> <li>The proportion of probable ore reserves derived from the measured resource base is approximately 3% consisting of portions of the Seam 8 coal plies.</li> </ul>
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The coal reserve estimates prepared by Stantec were subjected to internal peer review. Stantec is a non-related third party, and the Company has not undertaken any formal audit of the Stantec's work.

Criteria	JORC Code explanation	Commentary
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 resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.  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.	<ul> <li>The reserve categories were considered acceptable by the Competent Person during the classification of the reserves.</li> <li>The accuracy of reserve estimates is, in part, a function of the quality and quantity of available data and of engineering and geological interpretation and judgment by the Competent Person.</li> <li>Based on the historical, 2012, 2013 and 2018 drill hole data and coal quality data derived from these programs, the geological interpretation of that data, and the mining and economic inputs as described in the BFS, the reserve estimate is considered reasonable.</li> <li>There is no guarantee that all or any part of the estimated reserve will be recoverable.</li> </ul>

#### Section 5 Estimation of Diamonds and Gems

This section is not addressed as no diamonds or other gemstones are reported for this Property.