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30 October 2023

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

UPDATE ON RESOURCES AND RESERVES

Bathurst Resources Limited (ASX: BRL) advises an update to resources and reserves. Total resources¹ have decreased from 167.9 million tonnes ("Mt") to 162.1Mt at 30 June 2023.

Notable changes year-on-year have been:

- The closure of Canterbury Coal has accounted for a 3.1Mt reduction in the total resource.
- The North Island domestic resource has decreased by 0.8Mt with the key variations being mining depletion at Rotowaro and Maramarua.
- The Takitimu resource has been depleted by 0.3Mt.
- Total Stockton resource (including Upper Waimangaroa) has been depleted by 1.6Mt.

The 1.5Mt decrease in Marketable Coal Reserve tonnes at Stockton is due to mining depletion and the removal of the A18 Fines Stockpile coal tonnes after studies determined that coal fines stockpiles are not economically recoverable at this time. The A18 Coal Fines reclaim studies are ongoing and considered to be at pre-feasibility study level. The Marketable Coal Reserves at Rotowaro have been depleted by 0.7Mt due to mining and stockpile depletion (0.4Mt) and standardisation of the resource classification (0.3Mt). There have been no further significant changes to the reserve statement other than mining depletion.

The documents appended² have been generated as JORC Table 1 disclosures as required under clause 5 of the JORC (2012) code. The Table 1 documents support both first release and materially changed mineral resources or ore reserves for significant Bathurst projects.

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

On behalf of Bathurst Resources Limited.

Richard Tacon, CEO

¹ Resource values are presented here as the sum of 100 percent of Bathurst owned permits and 100 percent of BT Mining permits. In the supporting tables Bathurst's ownership percentage against each permit area is clearly documented.

² Note that the image quality in the attached document has been reduced in order to meet file size limits set by the ASX. A copy of the high-resolution version of this document can be obtained by contacting Bathurst (subject to the requestor's email account file size restrictions).

www.bathurst.co.nz

Table 1 - Resource tonnes (rounded to the nearest million tonnes)

Area	Bathurst ownership	2023 Measured resource	2022 Measured resource	Change	2023 Indicated resource	2022 Indicated resource	Change	2023 Inferred resource	2022 Inferred resource	Change	2023 Total resource	2022 Total resource	Change
Escarpment ⁽⁷⁾	100%	1.9	1.9	0,0	1.2	1.2	0,0	0.7	0.7	0,0	3.8	3.8	0,0
Cascade ⁽⁷⁾	100%	0.5	0.5	0.0	0.6	0.6	0.0	0.3	0.3	0.0	1.4	1.4	0.0
Deep Creek ⁽²⁾	100%	6.2	6.2	0.0	3.1	3.1	0.0	1.6	1.6	0.0	10.9	10.9	0.0
Coalbrookdale ⁽⁷⁾	100%	0.0	0.0	0.0	1.7	1.7	0.0	3.1	3.1	0.0	4.8	4.8	0.0
Whareatea West (7)	100%	6.2	6.2	0.0	7.8	7.8	0.0	2.7	2.7	0.0	16.7	16.7	0.0
Sullivan ⁽⁷⁾	100%	1.9	1.9	0.0	3.0	3.0	0,0	3.3	3.3	0,0	8.2	8.2	0,0
South Buller totals	100%	16.7	16.7	0.0	17.4	17.4	0.0	11.7	11.7	0.0	45.8	45.8	0.0
Stockton ^(1, 5, 6 & 7)	65%	2.5	2.6	(0.1)	6.6	7.3	(0.7)	5.6	5.8	(0.2)	14.7	15.7	(1.0)
Upper Waimangaroa (Met) (1,5,6&7)	65%	0.4	0.6	(0.2)	13.2	13.2	0.0	32.0	32.4	(0.4)	45.6	46.2	(0.6)
Upper Waimangaroa (Thermal) ^(1&7)	65%	0.0	0.0	0.0	0.6	0.6	0.0	0.9	0.9	0.0	1.5	1.5	0.0
Stockton totals	65%	2.9	3.2	(0.3)	20.4	21.1	(0.7)	38.5	39.1	(0.6)	61.8	63.4	(1.6)
Millerton North (2)	100%	0.0	0.0	0.0	1.8	1.8	0.0	3.5	3.5	0.0	5.3	5.3	0.0
North Buller Totals ⁽²⁾	100%	2.4	2.4	0.0	7.2	7.2	0.0	10.6	10.6	0.0	20.2	20.2	0.0
Blackburn ⁽²⁾	100%	0.0	0.0	0.0	5.8	5.8	0.0	14.1	14.1	0.0	19.9	19.9	000
North Buller totals	100%	2.4	2.4	0.0	14.8	14.8	0.0	28.2	28.2	0.0	45.4	45.4	0.0
Buller Coal Project totals	100%	22.0	22.3	(0.3)	52.6	53.3	(0.7)	78.4	79.0	(0.6)	153.0	154.6	(1.6)
Takitimu (4, 5, 6 & 7)	100%	0.1	0.1	0.0	1.1	1.4	(0.3)	0.0	0.0	0.0	1.2	1.5	(0.3)
New Brighton (4, 6 & 7)	100%	0.1	0.1	0.0	0.2	0.2	0.0	0.2	0.2	0.0	0.5	0.5	0.0
Canterbury Coal ⁽⁹⁾	100%	0.0	0.9	(0,9)	0.0	1.3	(1.3)	0.0	0.9	(0,9)	0.0	3.1	(3,1)
Southland/Canterbury totals	100%	0.2	1.1	(0.9)	1.3	2.9	(1.6)	0.2	1.1	(0.9)	1.7	5.1	(3.4)
Rotowaro (1, 5, 6 & 7)	65%	0.4	0.6	(0.2)	0.7	1.4	(0.7)	1.0	0.4	0.6	2.1	2.4	(0.3)
Rotowaro North ^(1, 4 & 8)	65%	0.3	0.0	0.3	0.9	0.0	0.9	2.2	3.7	(1.5)	3.4	3.7	(0.3)
Maramarua ^(1,3,4 & 5)	65%	1.6	1.8	(0.2)	0.3	0.3	0.0	0.0	0.0	0.0	1.9	2.1	(0.2)
North Island totals	65%	2.3	2.4	(0.1)	1.9	1.7	0.2	3.2	4.1	(0.9)	7.4	8.2	(0.8)
Total		24.5	25.8	(1.3)	55.8	57.9	(2.1)	81.8	84.2	(2.4)	162.1	167.9	(5.8)

Note

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

The measured and indicated mineral resources are inclusive of those mineral reserves modified to produce the ore reserves. Rounding of tonnes as required by reporting guidelines may result in summation differences between tonnes and coal quality. All resources quoted are reported as of 30 June 2023.

Table 1 - Resource tonnes (rounded to the nearest million tonnes) continued

Note

- Stockton, Upper Waimangaroa, Rotowaro, Ruawaro and Maramarua are owned by BT Mining Limited (65% Bathurst Resources Limited / 35% Talley's Energy Limited).
- ² No additional work has been undertaken on the coal resources for Deep Creek, Millerton North and Blackburn since originally reported. This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.
- ³ Resources were depleted by mining.
- ⁴ Resource tonnages have been calculated using a density value calculated using approximated in-ground moisture values (Preston and Sanders method).
- ⁵ Mining depletion offset by update to geological model.
- ⁶ Update to geological model combined with a review of potential economic recovery.
- Stockton, Upper Waimangaroa, Escarpment, Cascade, Coalbrookdale, Sullivan, Rotowaro, Takitimu and New Brighton density values are based on air-dried ash density regressions.
- ⁸ Resource classification upgraded following model update.
- 8 Canterbury Coal mineral access agreements not renewed. Reasonable prospects not met.
- ¹⁰ Coal resource variation due to a change in resource classification.

Агеа	Bathurst ownership	Measured resource (Mt)	Ash % (AD)	Sulphur % (AD)	Volatile matter % (AD)	Fixed carbon % (AD)	CSN	Inherent moisture	In situ moisture	Calorific value (AD)
Escarpment	100%	1.9	14.1	0.7	33.9	51.1	7.5	0.9	5.7	29.6
Cascade	100%	0.5	15.5	1.7	39.3	42.6	4.5	2.6	7.6	30.8
Deep Creek	100%	6.2	11.0	2.5	32.9	53.9	17	2.2	5.2	29.7
Coalbrookdale	100%	0.0		141		-	- 2	×	43	
Whareatea West	100%	6.2	20.8	0.8	25.1	53.5	8.0	0.6	6.5	28.2
Sullivan	100%	1.9	4.0	1.1	31.7	59.2	8.5	1.0	6.6	34.3
Stockton	65%	2.5	24.9	1.9	26.8	46.7	7.5	1.6	5	27.3
Upper Waimangaroa (Met)	65%	0.4	3.5	0.8	37.9	54.1	4.5	4.4	τ.	31.6
Upper Waimangaroa (Thermal)	65%	0.0	345		-	2	2	6	2	14
Millerton North	100%	0.0	121			12	×			10
North Buller	100%	2.4	8.6	4.7	43.1	45.4	4.5	2.9	11.4	29.7
Blackburn	100%	0.0	17. 17.		-		ı ت	2	2	
Takitimu	100%	0.1	16.8	0.4	35.4	33.2	N/A	14.7	24.5	19.7
New Brighton	100%	0.1	10.7	0.4	32.6	39.7	N/A	17.0	23.0	21.7
Rotowaro	65%	0.4	6.6	0.3	37.8	43.5	N/A	12.7	17.3	24.2
Rotowaro North	65%	0.3	7.0	0.3	35.7	42.2	N/A	15.0	22.0	23.6
Maramarua	65%	1.6	5.1	0.2	36.6	38.3	N/A	19.9	23.9	22.3

Table 2 - Average coal quality - measured

Table 3 - Average coal quality - indicated

Area	Bathurst ownership	Indicated resource (Mt)	Ash% (AD)	Sulphur % (AD)	Volatile matter % (AD)	Fixed carbon % (AD)	CSN	Inherent moisture	In situ moisture	Calorific value (AD)
Escarpment	100%	1.2	12.6	1.2	35.0	51.2	7.5	1.2	5.3	30.0
Cascade	100%	0.6	14.8	1.8	38.3	44.5	4.0	2.4	8.0	29.3
Deep Creek	100%	3.1	9.7	2.7	34.7	53.6	e.	2.0	4.8	30.3
Coalbrookdale	100%	1.7	12.7	1.6	35.6	50.1	5.0	1.7	5.3	29.7
Whareatea West	100%	7.8	23.6	1.2	23.5	52.3	7.5	0.7	6.6	27.1
Sullivan	100%	3.0	5.1	1.3	30.0	59.4	8.5	1.0	6.6	33.9
Stockton	65%	6.6	6.1	3.4	35.9	56.7	7.0	1.3	*	33.2
Upper Waimangaroa (Met)	65%	13.2	4.6	2.0	38.9	53.6	5.1	3.5	÷.	30.5
Upper Waimangaroa (Thermal)	65%	0.6	6.5	3.9	37.3	52.1	0.0	4.1	2	27.7
Millerton North	100%	1.8	9.7	4.9	36.9	52.4	10.0	1.0	6.1	31.1
North Buller	100%	7.2	8.8	5.1	42.6	46.3	5.0	2.3	9.4	30.0
Blackburn	100%	5.8	3.9	4.3	42.1	51.8	6.0	2.2	10.1	30.4
Takitimu	100%	1.1	9.1	0.3	35.3	38.2	N/A	17.4	25.5	21.6
New Brighton	100%	0.2	10.4	0.4	32.1	41.7	N/A	15.7	22.2	21.1
Rotowaro	65%	0.7	5.8	0.3	37.1	43.8	N/A	13.3	17.9	24.0
Rotowaro North	65%	0.9	7.0	0.3	35.9	42.4	N/A	14.7	21.6	23.8
Maramarua	65%	0.3	5.6	0.2	36.3	37.9	N/A	20.1	24.1	22.0

Table 4 – Average coal quality - inferred

Area	Bathurst ownership	Inferred resource (Mt)	Ash% (AD)	Sulphur % (AD)	Volatile matter % (AD)	Fixed carbon % (AD)	CSN	Inherent moisture	In situ moisture	Calorific value (AD)
Escarpment	100%	0.7	12.5	1.5	35.4	50.8	7.0	1.3	5.1	29.8
Cascade	100%	0.3	16.5	2.2	36.7	44.7	4.0	2.1	6.7	27.6
Deep Creek	100%	1.6	10.1	2.4	29.7	57.8	e.	2.4	7.1	29.7
Coalbrookdale	100%	3.1	12.8	1.8	35.6	49.9	5.0	1.7	5.5	29.5
Whareatea West	100%	2.7	24.1	1.1	23.0	52.2	7.0	0.7	6.6	26.8
Sullivan	100%	3.3	5.6	1.3	30.6	59.4	8.5	1.0	6.5	33.7
Stockton	65%	5.6	5.9	3.3	34.7	58.1	8.0	1.2		33.2
Upper Waimangaroa (Met)	65%	32.0	5.9	2.1	38.7	52.4	4.7	3.6	÷.	30.3
Upper Waimangaroa (Thermal)	65%	0.9	4.1	1.6	34.7	54.7	2.3	6.6	<u>z</u> .	27.8
Millerton North	100%	3.5	12.0	5.5	35.3	51.6	9.0	1.1	7.2	30.2
North Buller	100%	10.6	9.9	5.1	45.6	42.3	5.0	2.2	9.6	29.5
Blackburn	100%	14.1	6.4	4.8	41.8	49.5	6.0	2.3	11.2	30.1
Takitimu	100%	0.0	14.2	0.4	37.4	33.5	N/A	14.9	23.6	20.8
New Brighton	100%	0.2	11.0	0.4	33.6	39.6	N/A	15.9	22.2	22.0
Rotowaro	65%	1.0	7.0	0.3	36.8	43.3	N/A	13.0	17.6	23.7
Rotowaro North	65%	2.2	6.9	0.3	35.9	42.6	N/A	14.7	21.6	23.8
Maramarua	65%	0.0	11.4	0.2	36.8	35.2	N/A	16.5	20.7	21.3

Coal reserves

Table 5 - Coal reserves (ROM) tonnes

	-	P	roved (N	ved (Mt)		obable (Mt)	Total (Mt)		
ROM coal area	Bathurst ownership	2023	2022	Change	2023	2022	Change	2023	2022	Change
Whareatea West ^(D)	100%	00	00	00	4.7	4.7	00	4.7	4.7	00
Stockton ^(A, B, E, F & H)	65%	0.2	0.3	(01)	3.4	6.0	(26)	3.6	6.3	(2.7)
Upper Waimangaroa (Met) ^(A, B E & F)	65%	0.4	0.6	(0.2)	1.6	1.6	0.0	2.0	2.2	(0.2)
Takitimu ^(C, E & G)	100%	0.0	0.0	0.0	0.7	1.0	(03)	0.7	1.0	(03)
Rotowaro (A C, D E F & I)	65%	0.4	0.6	(0.2)	0.7	1.4	(07)	1.1	2.0	(0.9)
Maramarua ^(A, C, D, E, & F)	65%	1.1	1.2	(01)	0.1	0.2	(01)	1.2	1.4	(0.2)
Total		2.1	2.7	(0.6)	11.2	14.9	(3.7)	13.3	17.6	(4.3)

Table 6 - Marketable coal reserves tonnes

	-	Proved (Mt)			Pr	obable (Mt)	Total (Mt)		
Product coal area	Bathurst ownership	2023	2022	Change	2023	2022	Change	2023	2022	Change
Whareatea West ^(D)	100%	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Stockton (A, B, E, F & H)	65%	0.2	0.2	0.0	2.8	4.3	(1.5)	3.0	4.5	(1.5)
Upper Waimangaroa (Met) ^(A B E & F)	65%	0.4	0.5	(01)	1.4	1.4	00	1.8	1.9	(01)
Takitimu ^(C, E & G)	100%	00	00	00	0.7	0.9	(0.2)	0.7	0.9	(0.2)
Rotowaro (A, C, D, E, F & I)	65%	0.4	0.5	(01)	0.6	1.2	(0.6)	1.0	1.7	(07)
Maramarua ^(A, C D E & F)	65%	1.1	1.2	(01)	0.1	0.2	(01)	1.2	1.4	(0.2)
Total		2.1	2.4	(0.3)	8.6	11.0	(2.4)	10.7	13.4	(2.7)

Table 7 - Marketable coal reserves - proved and probable average coal quality

		Proved marketable							Probable marketable							
Area	Bathurst ownership	Mt	Ash %	Sulphur %	%W/	CSN	CV (MJ/Kg)	Mt	Ash %	Sulphur %	%W/	CSN	CV (MJ Kg)			
Whareatea West ^(D)	100%							3.0	10.9	0.7	27.8	9.5	27.5			
Stockton (A B E F & H)	65%	0.2	6.8	2.7	32.8	6.5	33.2	2.8	4.3	2.9	34.1	8.0	33.8			
Upper Waimangaroa (Met) (A, B E & F)	65%	0.4	2.8	0.7	37.6	4.5	31.8	1.4	2.9	1.3	37.7	4.0	31.8			
Takitimu ^(C, E & G)	100%	00	9.2	0.2	35.2	N/A	21.0	0.7	8.1	0.2	34.9	N/A	21.2			
Rotowaro (A C, D E F & I)	65%	0.4	6.6	0.3	37.8	N/A	24.2	0.6	5.8	0.3	37.1	N/A	24.0			
Maramarua ^(A, C, D, E & F)	65%	1.1	5.3	0.2	37.5	N/A	22.6	0.1	5.8	0.2	37.1	N/A	22.3			

Coal reserves

Table 8 - Marketable coal reserves - total average quality

Area	Bathurst ownership	Coal type	Mining method	Mt	Ash %	Sulphur %	VM%	CSN	CV (MJ/Kg)
Whareatea West ^(D)	100%	Met	Open Pit	3.0	10.9	0.7	27.8	9.5	27.5
Stockton ^(A, B, E, F & H)	65%	Met	Open Pit	3.0	4.4	2.9	34.1	8.0	33.7
Upper Waimangaroa (Met) (A, B, E&F)	65%	Met	Open Pit	1.8	2.9	1.2	37.7	4.0	31.8
Takitimu ^(C, E & G)	100%	Thermal	Open Pit	0.7	8.1	0.2	34.9	N/A	21.2
Rotowaro ^{(A, C, D, E, F & D}	65%	Thermal	Open Pit	0.9	6.1	0.3	37.4	N/A	24.1
Maramarua ^(A, C, D, E & F)	65%	Thermal	Open Pit	1.3	5.3	0.2	37.4	N/A	22.6

Note

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

The measured and indicated mineral resources are inclusive of ore reserves. Coal reserve (Run of Mine (ROM) tonnes) include consideration of standard mining factors. Rounding of tonnes as required by reporting guidelines may result in summation differences between tonnes and coal quality. All ore reserves quoted are reported as of 30 June 2023.

- ^A Stockton, Upper Waimangaroa, Rotowaro and Maramarua are owned by BT Mining Limited in which Bathurst has a 65% equity share.
- ^B Stockton and Upper Waimangaroa density values are based on air-dried ash density regressions.
- ^c In-ground total moisture is based on long term average coal production data.
- ^D Reserve tonnages have been calculated using a density value calculated using approximated in-ground moisture values (Preston and Sanders method) and as such reserve tonnages quoted in this report are wet tonnes.
- ^E Decrease in Coal Reserves due to mining depletion.
- F Variation due to model update.
- ^G Variation due to updated modifying factors.
- ^H Coal Reserves depleted by removal of A18 Coal Fines Reserve post completion of Feasibility Study.
- Coal Reserves reduced due to a change in resource classification.

Resource quality

Bathurst is not aware of any information to indicate that the quality of the identified resources will fall outside the range of specifications for reserves as indicated in the above table. Further resource and reserve information can be found on Bathurst's website at www.bathurst.co.nz.

Mineral resource and ore reserves governance and estimation process

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

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

All reserve estimates are prepared in conjunction with pre-feasibility, feasibility and life of mine studies which consider all material factors.

All resource and reserve estimates are then further reviewed by suitably qualified internal management.

The resources and reserves statements included in Bathurst's 2023 annual report have been reviewed by qualified internal and external Competent Persons, and internal management, prior to their inclusion.

Competent person statements

The information on this report that relates to mineral resources for Deep Creek and mineral reserves for Whareatea West, Takitimu, Rotowaro and Maramarua is based on information compiled by Sue Bonham-Carter, who is a full time employee of BCP Associates (New Zealand) Limited and is a Chartered Professional and member of the Australasian Institute of Mining and Metallurgy and member of Professional Engineers and Geoscientists of British Columbia, Canada. Ms Bonham-Carter has a BSc Engineering (Mining) (Hons) from the Queen's University, Canada. Ms Bonham-Carter has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2004 Edition and 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Ms Bonham-Carter consents to the inclusion in this report of the matters based on her information in the form and context in which it appears above.

The information in this report that relates to exploration results and mineral resources for Takitimu, New Brighton, Rotowaro, Rotowaro North and Maramarua is based on information compiled by Eden Sinclair as a Competent Person who is a full time employee of Bathurst Resources Limited and is a Chartered Professional and member of the Australasian Institute of Mining and Metallurgy. Mr Sinclair has a BSc in geology from the University of Canterbury. Mr Sinclair 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 Sinclair consents to the inclusion in this report of the matters based on his information in the form and context in which it appears above.

The information in this report that relates to exploration results and mineral resources for Stockton, Upper Waimangaroa, Escarpment, Sullivan, Cascade, Coalbrookdale, Whareatea West, Millerton North, North Buller and Blackburn is based on information compiled by Mark Lionnet as a Competent Person who is a full time employee of BT Mining Limited and is a member of the Australasian Institute of Mining and Metallurgy. Mr Lionnet has a BSc (Hons) majoring in geology from the University of Witwatersrand. Mr Lionnet has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition and 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Lionnet consents to the inclusion in this report of the matters based on his information in the form and context in which it appears above.

The information on this report that relates to mineral reserves for Stockton and Upper Waimangaroa is based on information compiled by lan Harvey who is a full time employee of Bathurst Resources Limited and is a member of the Australasian Institute of Mining and Metallurgy. Mr Harvey has a Bachelors in Mining Engineering from the University of Otago. Mr Harvey 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 Harvey consents to the inclusion in this report of the matters based on his information in the form and context in which it appears above.

JORC Code, 2012 Edition – Table 1 Report for the Denniston Plateau 2023

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	 Multiple campaigns of data acquisition have been carried out on the Denniston Plateau over the past century. Modern exploration campaigns include data from 2010: 326 PQ-HQ Triple Tube Core (TTC) holes. 96 production blast holes. 13 outcrop trenches. Down-hole geophysics are available for 211 of these modern drillholes. Historic data includes: Five reverse circulation holes 2009-2010. 67 PQ-HQ TTC holes from 1984-2010. 23 NQ TTC holes from 1975-1978. 74 rotary wash drillholes from 1948-1961. Three outcrop trenches. 40 holes of this dataset have down-hole geophysics data available. Recent drilling has aimed to infill areas lacking data and to test reliability of historic data. Drilling has been concentrated on areas deemed closer to production, therefore tighter drill spacing exists in Cascade and Escarpment than Whareatea West and Coalbrookdale. Coal sampling is based on the standardised BRL coal sampling procedures. 46 additional holes drilled by Solid Energy NZ Ltd (SENZ) were added to the database with the purchase of the Sullivan Mining License. These holes were logged and sampled using standards very similar to those of BRL. Coal quality ply samples have been selected on all coal logged by a geologist with 95% confidence that the ash will fall below 50%. Material with an estimated ash over 50% was not sampled unless the material was a sandstone parting of < 0.1m in thickness within a coal seam whereby it would be included within a larger ply sample. Ply samples were generally taken over intervals no greater than 0.5m. All analytical data has been assessed and verified before inclusion into the resource model.
Drilling techniques	 All BRL managed drilling campaigns have utilised the following drilling methods: Full PQ Triple Tube Core. HQ Triple Tube Core only where necessary. Open-holed overburden where applicable. Logged production blast holes using top head hammer blast rig. Historic drilling techniques include: PQ Triple Tube Core. HQ Triple Tube Core. NQ Triple Tube Core. Open-holed. Rotary wash. Reverse circulation. All exploration drillholes were collared vertically. PQ sized drilling was utilised to maximise the core recovery.
Drill sample recovery	 Core recovery was measured by the logging geologist for each drillers' run (usually 1.5m) in each drillhole. If recovery of coal intersections dropped below 85% the drillhole was re-drilled. Drillers were paid an incentive if coal recovery was above 90%. In some instances the recovery of thin rider seams (< 0.5m) was poor due to the soft friable nature of the coal. Therefore the sample dataset for the two rider seams was not as evenly spatially distributed as the main seam.

Criteria	Commentary
	 Average total core recovery over the modern drilling campaigns was 95.6% with core recovery of coal at 93.6%. Where small intervals of coal were lost, and were confirmed by geophysics, ash values were estimated using the results of overlying and underlying ply samples and the relative response of the open-hole density trace. Geochemical sampling for overburden characterisation was also completed by taking representative samples of core on a lithological basis with a maximum sample length of 5m.
Logging	 BRL has developed a standardised core logging procedure and all core logging completed by BRL and its contractors has followed this standard. All modern drill core has been geologically and geotechnically logged by geologists under the supervision and guidance of a team of experienced exploration geologists. As much data as possible has been logged and recorded including geotechnical and rock strength data. All core was photographed prior to sampling. Depth metre marks and ply intervals are noted on core in each photograph. The geophysical logging company maintained and calibrated all tools as per their internal calibration procedures. Additionally, geophysics equipment was calibrated and tested using a calibration hole on the plateau with known depth to coal, thickness and quality. BRL aimed to geophysically log every drillhole that intersected coal providing hole conditions and operational constraints allowed. The standard suite of tools run included density, dip meter, sonic, and natural gamma. Where drillhole conditions were poor or mine workings were intersected only in-rods density was acquired. In-rods density produced a reliable trace for use in seam correlation and depth adjustment but was not used for ash correlations. Down hole geophysical logs were used to aid core logging. Down hole geophysics were used to correlate coal seams, to confirm depths and thickness of coal seams and to validate drillers' logs. Geophysics were also used to accurately calculate recovery rates of coal.
Sub-sampling techniques and sample preparation	 For all exploration data acquired by BRL, an in-house detailed sampling procedure is used. Sampling and sample preparation were consistent with international coal sampling methodology. Ply samples include all coal recovered for the interval of the sample. Core was not cut or halved. Ply sample intervals were generally 0.5m unless dictated by thin split or parting thickness. All drilling in the recent campaigns has been completed using triple tube cored holes. No chip or RC samples were taken in these campaigns. Some historic RC and wash drilled holes have poor sampling methods and are excluded from the coal quality model. Assay samples were taken as soon as practicable and stored in a chiller until transport to the coal quality laboratory. A series of random duplicate samples representing 1.3% of the total number of samples from Buller has been completed by Verum Group Ltd (Verum - previously CRL Limited). The results of this duplicate testing were comparable to that reported by SGS New Zealand Limited (SGS).



Criteria	Co	ommentary	
		Sulphur	(ASTM D 4239)
		Swelling Index	(ISO 501)
		Calorific Value	(ISO 1928)
		Mean Maximum Reflectance All Vitrinite (RoMax)	Laboratory Standard
		Chlorine in Coal	(ASTM D4208)
		Hardgrove grindability index	(ISO 5074)
		Gieseler plastometer	(ASTM D 2639)
		Audibert arnu dilatometer	(ISO 349)
		Forms of sulphur	(AS 1038 Part 11)
		Ash fusion temperatures	(ISO 540)
		Ash constituents (xrf)	(ASTM D 4326)
		Ultimate Analysis	(ASTM D3176-09)
	•	All analysis was undertaken and r	eported on an air-dried basis unless stated otherwise.
Verification of	•	Sample assay results have been	cross referenced and compared against lithology logs and
sampling and assaying	•	downhole geophysics data. Re compared with expected values u Anomalous assay results were contacted and a retest undertake	sults are also inspected by experienced geologists and tilising known coal quality relationships for the Buller coalfield. investigated and, where necessary, the laboratory was n from sample residue.
	٠	Where holes were geophysical lo	gged, verification of seam details is made through analysis of
	•	drillhole samples. Assessments of geologist, and by a senior geol absence) of coal seams and a measurements are used to guide 12 twinned holes have been dri drillholes. Laboratory data is imported dire	of coal intersections are undertaken by an internal or contract logist. Geophysics allows confirmation of the presence (or inccurate determination of contacts to coal seams. Density sampling and identify high ash bands. Iled at the project with consistent results obtained between ctly into an acQuire database with no manual data entry at
		either the SGS laboratory of at Br	XL.
	•	Once validated, drillhole informati is not inadvertently compromised.	on is "locked" within the acQuire database to ensure the data
	•	Localised weathering of coal near There are a number of instance samples has been retained for mo	ar fault zones or near outcrops can affect coal assay results. These where this has occurred and only ash data from these podeling purposes.
Location of	٠	Modern drillhole positions have be	een surveyed using Trimble RTK survey equipment.
data points	٠	Some historic drill collars have	been resurveyed. Some historic collars are not able to be
		located.	
	•	Historic mine plans georeference	ed by locating and surveying historic survey marks, survey
	•	New Zealand Trans Mercator 20	nine plans.
	•	areas. NZTM is considered a si Zealand. Historic data has been	converted from various local circuits and map grids using NZ
		standard cadastral conversions.	over the Department Plateau in December 2011 with a report
	•	LiDAR survey flown over Cascad topographic data used in the mo sensor and operating settings specification states 0.15m (1-sig ground elevation accuracy	de in January 2013. This LiDAR data provided very accurate odel. Contractors' specifications state that, for the choice of used for this project, the LiDAR sensor manufacturer's gma) horizontal accuracy and 0.1m (1-sigma) as the open
	•	Surveyed elevations of drillhole of	ollars are validated against the LiDAR topography and ortho-
		corrected aerial photography.	
Data spacing	٠	Data spacing for the Denniston	Plateau project areas has been estimated by calculating the

Criteria	Commentary
And distribution	 diameter required to fill the total area of the project divided by number of drillholes within that area. Escarpment has an average drillhole spacing of 114m. Whareatea West has an average drillhole spacing of 257m. Coalbrookdale has an average drillhole spacing of 198m. Cascade has an average drillhole spacing of 76m. Sullivan has an average drillhole spacing of 78m. Drillhole spacing is not the only measurement used by BRL to establish the degree of resource uncertainty and therefore the resource classification. BRL uses a multivariate approach to resource classification. The current drillhole spacing is deemed sufficient for coal seam correlation purposes. Geostatistics have been applied to the Denniston dataset with positive results being obtained. Variography results have been applied to grade estimation search parameters. The samples database is composited to 0.5m sample length prior to grade estimation. Any samples with composited length of less than 0.1m are not included in the estimation. Compositing starts at the top of seam and small samples are not distributed or merged. All exploration drilling has been completed at a vertical orientation. Deviation data was acquired by BRL during modern campaigns and showed little to no deviation in those holes. Holes without deviation plots are assumed to be vertical. Any deviation from vertical is not expected to have a material effect on geological understanding as the average drillhole depth in the dataset is 65m with the deepest coal intersection of 131m (at 60m depth a 1° deviation would produce a horizontal deviation at the end of hole of 1m with negligible vertical exaggeration).
	 The majority of the deposit presents a shallow seam dip between 5° – 15°. Vertical drilling is considered to be the most suitable drilling method of assessing the coal resource on the Denniston Plateau.
Sample security	 Stringent sample preparation and handling procedures have been followed by BRL. Ply samples are collected and recorded from drill core, bagged and placed within a locked chiller prior to being dispatched for analysis. It is not considered likely that individual coal samples face a risk of theft or sabotage as coal is a bulk commodity with little value for small volumes of coal from drill core.
Audits or reviews	• BRL has reviewed the geological data available and considers the data used to produce the resource model is reliable and suitable for the purposes of generating a reliable resource estimate.
	 Results of a duplicate sample testing program comparing SGS and VERUM results for ply assays have shown a strong correlation with no laboratory bias. Senior geologists undertake monthly audits of the sample collection and analysis.

Section 2 Reporting of Exploration Results

Criteria	Co	mmentary				
Mineral tenement and land tenure status	•	BCL owns and operates a number of coal exploration and mining permits on the Dennist Plateau, northwest of Westport, New Zealand. BRL has 100% ownership in the following coal tenements on the Denniston Plateau:				
Status		Tenement	Operation	Expiry		
		Mining Permit 51279	Escarpment	23/06/2022		
		Mining Permit 41456	Coalbrookdale	14/05/2017		
				Mining Permit 41332	Coalbrookdale	14/05/2015
		Mining Permit 41274	Coalbrookdale	29/05/2035		
		Mining Permit 41455	Cascade	14/05/2017		

Exploration Permit 40591 Whareatea West 19/12/2015 Exploration Permit 40528 Buller 10/07/2016 Coal Mining Licence 37161 Sullivan 31/03/2027 BRL has submitted an application for a subsequent Mining Permit to replace EP40591 and it is reasonably expected that this permit application will be granted. An appraisal extension application (AE) for EP40628 and an extension of duration for MP41332 have been submitted to NZP&M and the applications are currently being processed. A new Exploration Permit application cover areas that were formerly held under EP 40628. A royalty payment to the Crown is payable on all coal mined from the Plateau at a rate of \$2 per tonne. The acquisition of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue. The majority of the land on the Denniston Plateau is Crown land administered by the Department of Conservation as Stewardship Areas (Part V Section 25 Conservation Act 1987). These areas are managed to protect the natural and historic values of the region. A n access arrangement for the Escarpment project was granted by the Minister of Conservation in May 2013. Coal Mining Licences confer access rights and land use consents to the Licence Holder. Bathurst was granted resource consents for the Escarpment project by an independent panel of commissioners representing the local councils in August 2011. These resource consents were granted in October 2013. Production from Escarpment began in 2014 and the mine was placed in care and maintenance in May 2016. <td< th=""><th>Criteria</th><th>Commentary</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	Criteria	Commentary							
Exploration Permit 40628Buller10/01/2015Coal Mining Licence 37161Sullivan31/03/2027•BRL has submitted an application for a subsequent Mining Permit to replace EP40591 and it is reasonably expected that this permit application will be granted.•An appraisal extension application (AE) for EP40628 and an extension of duration for MP41332 have been submitted to NZP&M and the application is currently being processed.•A new Exploration Permit application is currently being processed by NZP&M (application 60520). This permit application cover areas that were formerly held under EP 40628.•A new Exploration of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue.•The acquisition of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue.•The acquisition of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue.•The acquisition of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue.•The acquisition of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue.•The acquisition of the Eccarpment project was granted by the Minister of Conservation in May 2013.•Coal Mining Licences confer access rights and land use consents to the Licence Holder.•Bathurst was granted resource consents for the Escarpment project by an independent panel of commissioners representing the local councils in August 2011. These resource consents were then the subject of a number of appeals. The final consents were granted in October 2013.• <t< th=""><th></th><th>Exploration Per</th><th>mit 40591</th><th></th><th>Whareatea West</th><th>19/12/2015</th><th></th><th></th><th></th></t<>		Exploration Per	mit 40591		Whareatea West	19/12/2015			
Coal Mining Licence 37161 Sullivan 31/03/2027 • BRL has submitted an application for a subsequent Mining Permit to replace EP40591 and it is reasonably expected that this permit application will be granted. • An appraisal extension application (AE) for EP40628 and an extension of duration for MP41332 have been submitted to NZP&M and the applications are currently being processed. • A new Exploration Permit application cover areas that were formerly held under EP 40628. • A royalty payment to the Crown is payable on all coal mined from the Plateau at a rate of \$2 per tonne. • The acquisition of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue. • The majority of the land on the Denniston Plateau is Crown land administered by the Department of Conservation as Stewardship Areas (Part V Section 25 Conservation Act 1987). These areas are managed to protect the natural and historic values of the region. • An access arrangement for the Escarpment project was granted by the Minister of Conservation in May 2013. • Coal Mining Licences confer access rights and land use consents to the Licence Holder. • Bathurst was granted resource consents for the Escarpment project by an independent panel of commissioners representing the local councils in August 2011. These resource consents were form the shigh quality coal and the company is to continue to compete for other markets for this high quality coal and the company is continuing to develop plans for the export operation. Exploration form Escarpment began in 2014 and the mine was placed in ca		Exploration Per	mit 40628		Buller	10/01/2015			
 BRL has submitted an application for a subsequent Mining Permit to replace EP40591 and it is reasonably expected that this permit application will be granted. An appraisal extension application (AE) for EP40628 and an extension of duration for MP41332 have been submitted to NZP&M and the applications are currently being processed. A new Exploration Permit application is currently being processed by NZP&M (application 60520). This permit application cover areas that were formerly held under EP 40628. A royalty payment to the Crown is payable on all coal mined from the Plateau at a rate of \$2 per tonne. The acquisition of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue. The anajority of the land on the Denniston Plateau is Crown land administered by the Department of Conservation as Stewardship Areas (Part V Section 25 Conservation Act 1987). These areas are managed to protect the natural and historic values of the region. An access arrangement for the Escarpment project was granted by the Minister of Conservation in May 2013. Coal Mining Licences confer access rights and land use consents to the Licence Holder. Bathurst was granted resource consents for the Escarpment project by an independent panel of commissioners representing the local councils in August 2011. These resource consents were then the subject of a number of appeals. The final consents were granted in October 2013. Production from Escarpment began in 2014 and the mine was placed in care and maintenance in May 2016. This this toric drilling database includes the following drillholes compiled from the historical data records. Table 1 Table listing historic drilling dataset. 		Coal Mining Lic	ence 37161		Sullivan	31/03/2027			
Table 1 Table listing historic drilling dataset. Years Agency Range of Collar ID # Holes Drilling Method # Holes in structure model # holes with Geophysics Available Multiple Vering 000 000 000 100 000 100 000 100 000	Exploration done by other parties	 BRL has submitted an application for a subsequent Mining Permit to replace EP40591 and it is reasonably expected that this permit application will be granted. An appraisal extension application (AE) for EP40628 and an extension of duration for MP4133; have been submitted to NZP&M and the applications are currently being processed. A new Exploration Permit application is currently being processed by NZP&M (application 60520). This permit application cover areas that were formerly held under EP 40628. A royalty payment to the Crown is payable on all coal mined from the Plateau at a rate of \$2 per tonne. The acquisition of the Coalbrookdale permits includes a life of mine royalty based on a fixed percentage of FOB revenue. The majority of the land on the Denniston Plateau is Crown land administered by the Department of Conservation as Stewardship Areas (Part V Section 25 Conservation Act 1987) These areas are managed to protect the natural and historic values of the region. An access arrangement for the Escarpment project was granted by the Minister of Conservation in May 2013. Coal Mining Licences confer access rights and land use consents to the Licence Holder. Bathurst was granted resource consents for the Escarpment project by an independent pane of commissioners representing the local councils in August 2011. These resource consent were then the subject of a number of appeals. The final consents were granted in Octobe 2013. Production from Escarpment began in 2014 and the mine was placed in care and maintenance in May 2016. The intent of the company is to continue to compete for other markets for this high quality coa and the company is continuing to develop plans for the export operation. Historic geological investigations and reports for Denniston exist, covering much of the pas 125 years. 						it is 332 ation of \$2 ixed the 987). r of eanel eats ober ance coal past data	
Years Agency Range of Collar ID # Holes Drilling Method # Holes in structure model # holes in quality model # holes with Geophysics Available		Table 1 Table listing	historic drilling	datase	et.				
		Years Agency	Range of Collar ID	# Holes	Drilling Method	# Holes in structure model	# holes in quality model	# holes with Geophysics Available	
multiple various 200 - 204 49 Various 36 1 0 1998 1950 5525 569.0 4.7 Rotou under Artill 4.4 22 4		Multiple Various	200 - 254	49	Various Rotany wash drill	36	1	0	
1940 - 1950 State Coal Mines 325 - 509A 47 Rotary wash drill 44 32 1 1950 - 1951 State Coal Mines 750 - 895 7 Rotary wash drill 5 3 0		1940 - 1950 State Coal Mines 1950 - 1951 State Coal Mines	525 - 569A 750 - 895	4/	Rotary wash drill	44 5	32	0	
1957 – 1961 State Coal Mines 916 - 984 20 Rotary wash drill 16 2 0 1975 – 1978 State Coal Mines 1070 - 1142 23 NO triple tube core/open hole 20 12 0		1957 – 1961 State Coal Mines	916 - 984	20	Rotary wash drill	16 20	2	0	
1975 - 1978 State Coal Mines 1070 - 1142 23 NQ triple tube core/open hole 20 12 0 1984 - 1986 Applied Geological 1270 - 1495 21 Open hole CSR and triple tube 16 8 14		1975 – 1978 State Coal Mines 1984 – 1986 Applied Geologica	al 1270 - 1495	23	Open hole CSR and triple to	tube 16	12	14	
Associates (AGA) core 1997 Solid Energy NZ Ltd 1509 - 1512 4 PQ wash drill and triple tube 2 2 4		Associates (AGA) 1997 Solid Energy NZ Ltd	1509 - 1512	4	core PQ wash drill and triple tub core	e 2	2	4	
2005 Eastern Corp CC01 – CC07 7 PQ wash drill and triple tube 2 1 1		2005 Eastern Corp	CC01 – CC07	7	PQ wash drill and triple tub	e 2	1	1	
2005 - 2006 Eastern Corp/ Restpine WW01 - WW11 11 PQ wash drill and triple tube 11 9 8		2005 – 2006 Eastern Corp/ Restpine	WW01 – WW11	11	PQ wash drill and triple tub core	e 11	9	8	
2007 L&M Coal DEN01 – DEN05 5 HQ wash drill and triple tube 5 4 4		2007 L&M Coal	DEN01 – DEN05	5	HQ wash drill and triple tub core	be 5	4	4	
2008 L&M Coal DEN01A - DEN09 8 PQ wash drill and triple tube 5 4 4		2008 L&M Coal	DEN01A – DEN09	8	PQ wash drill and triple tub core	ne 5	4	4	
2009 – 2010 Eastern Corp CC08 - CC12 5 RC 3 2 0 2009 – 2010 L&M Coal DEN10 – DEN18 11 PQ wash drill and triple tube 11 5 6		2009 – 2010 Eastern Corp 2009 – 2010 L&M Coal	CC08 - CC12 DEN10 - DEN18	5 11	RC PQ wash drill and triple tub	3 De 11	2 5	0	
2010L&M CoalVarious3Trenches330			Various	2	core	2	2		1

- All historic data has been checked and validated against original source documents by L&M, Golder Associates (NZ) Ltd and again by BRL staff post acquisition of the project. Where data was deemed unreliable it was removed from the relevant resource model dataset.
- Modern drilling completed by SENZ in the Sullivan Licence has been extensively validated before incorporation into the Resource model. SENZ used systems and processed in data

Criteria	Commentary								
	capture that are very similar to those employed by BRL.								
Geology	The project is located in the Buller coalfield, New Zealand.								
	• The Denniston Plateau is a north west dipping plateau bounded to the west by the Papahaua								
	Overfold/Kongahu Fault zone, and to the east by the Mt William Fault.								
	• The defined resource is contained within the Eocene aged Brunner Coal Measures. The coal								
	measures consist of a fluviatile sequence of fine to very coarse sandstones, siltstone,								
	mudstone and coal seams. The deposit generally has a single extensive seam with some								
	localised splitting of the seam. The coal thickness can be up to 12m but generally averages 4-								
	5m vertical thickness.								
	I he dip of the plateau reflects the dip of the coal bearing sediments with localised exposures of basement units at structural bighs and within incised guillies								
	basement units at structural highs and within incised gullies.								
	Little to no Quaternary deposits or soils overlay the Brunner Coal Measures with overburden appornly around 40.50m								
	A strop	na trend in	coal rank	exists acr	oss the depo	sit with co	al rank inc	reasing fro	m east to
	west.	ng trond in						loading no	
Drillhole	Table 2 Tab	ole listing m	odern drilli	ng dataset.					
Information	Years	Agency	Range of Collar ID	# Holes	Drilling Method	# Holes in structure	# Holes in quality model	# holes with Geophysics	
	2010 2012	Deebfert Cool	1000/40	44		model	10	Available	
	2010 - 2012	Rochion Coal	WW25	14	Triple tube Core	14	13	12	
	2011 - 2016	Buller Coal	DEN19 - DEN263	244	PQ OH and Triple tube Core	215	206	156	
	2011 - 2013 Cascade Coal CC13 - CC46 32 HQ/PQ OH and Triple tube Core 21 19 25								
	2012	Cascade Coal	CCT01 - CCT02	2	Trenches	2	2	0	
	2012 - 2016 Buller Coal DENT01 – 29 Trenches 28 28 0								
	2012-2016 Cascade Coal CCB16 – CCB60 59 Logged Production Blast 50 0 2								
	2011 SENZI 6000 series holes 46 PQ OH and Triple tube Core 46 46 46 2013-2016 Buller Coal DENB001 – DENB184 184 Logged Production Blast holes 81 3 0								
	Exploration drilling results have not been reported in detail.								
	• The exclusion of this information from this report is considered not to be material to the								
	understanding of the report.								
Data	Exploration drilling results have not been reported in detail.								
aggregation	• The maximum ash cut off for the building the Denniston structure model was set at 50%;						t at 50%;		
methous	howev	er, some t	hin assay s	samples w	here ash is g	greater tha	n 50% are	included in	n the coal
	quality	dataset du	e to the str	ucture mod	tel including t	hat interval	within a co	al seam.	
	Ine St	uiivan reso	urce has de	een modell cod to build	ed applying ti	ne Stocktor	1 resource r	nodelling p	roceaure.
Relationshin	An ash cut-off of 25% was used to build the structure model for Sullivan.								
between	All exploration drillholes have been drilled vertically and the coal seam is generally gently dipping. Therefore, seam intercent thicknesses are representative of the true seam thicknesses.								
mineralisation	Dip me	etre and de	eviation plo	ots are ava	ulable for sor	ne holes. I	For those v	vithout this	data it is
widths and	• Up metre and deviation plots are available for some holes. For those without this data it is assumed that a vertical orientation is achieved and as most coal intersections are less than								
Intercept	100m in depth, any deviation from vertical would produce only a very minor effect to the								
lenguis	reporte	ed depth to	coal and co	oal thickne	SS.	•			
Diagrams	• The Ap	opendix inc	ludes a nur	mber of pla	ns that displa	y the depo	sit geograpl	hically.	
Balanced	Explore	ation drillir	ng results	have not	been repor	ted. This	has avoide	ed any is	sues with
reporting	unbala	nced or bia	ased reporti	ing.	-				
	• The C	ompetent F	Person doe	s not belie	ve that the e	xclusion of	this compr	ehensive e	xploration
	data w	rithin this re	eport detrac	cts from the	e understandi	ing of this r	eport or the	e level of ir	nformation
	provide	əd.							
Other	• Three	PQ holes h	ave been o	drilled in the	e south easte	ern corner o	of the Escar	pment peri	mit. These
substantive exploration	holes v	will be inco	porated int	o the next	model update	Э.			

Criteria	Commentary
data	 Representative bulk samples have been collected and tested for: Coking behavior Material handling properties Washability analysis BRL has completed and compiled a total of 56 coal quality composite samples over the Denniston Plateau. A number of bulk marketing samples have been completed. BRL has tested 954 overburden samples for overburden classification for acid forming and neutralising potential. The first three large diameter drillholes in a washability program for the western margin of Whareatea West have been completed and washability test work is currently being finalised.
Further work	• Washability testing is planned to progress recent large diameter holes completed in Whareatea West and Sullivan.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	 All historic and legacy datasets have been thoroughly checked and validated against original logs and results tables. BRL utilises an acQuire database to store and maintain its geological exploration dataset. The acQuire database places explicit controls on certain data fields as they are entered or imported into the database such as overlapping intervals, coincident samples, prohibited sample values, standardised look-up tables for logging codes etc. Manual data entry of assay results is not required as results are imported directly. Drillhole and mapping data is exported directly into Vulcan from acQuire.
Site visits	 Mark Lionnet (the Competent Person) has worked for the past 14 years in the Buller coalfield. Mr. Lionnet is familiar with the local and regional geology and style of deposit within the South Buller region.
Geological interpretatio	 BRL has confidence in the geological models and the interpretation of the available data. Confidence varies for different areas and this is reflected by the resource classification. BRL uses a multivariate approach to resource classification which takes into account a number of variables. BRL considers the amount of geological data sufficient to estimate the resource. Uncertainty surrounds the historic mine workings, both in the quality and quantity of coal extracted and surveying and positioning of underground workings. This is reflected in the resource classification. BRL has used a total of 16 synthetic holes in the structure model primarily to constrain seam thicknesses around the edges of coal pods that have been worked by historical underground mines. A Quaternary gravel deposit truncates the coal measures as an unconformity within the Cascade valley. This unconformity surface has been incorporated into the resource model. Some uncertainty surrounds the surface and therefore the coal resource within the area of influence. The Quaternary gravel deposit only covers an area of ~2.5Ha or < 0.1% of the total resource area, much of which has already been extracted at the Cascade opencast mine. Effect of alternate interpretations is minimal when taken as a portion of total resources. A small number of digital interpretation strings are used to constrain the coal structure grids within the model. These strings are primarily located near fault boundaries.
Dimensions	 The main coal seam varies in thickness from less than 1m thick up to 14m thickness locally. Depth of cover varies from 0m at outcrop to over 150m at the eastern margin of the Mt William Fault. Inferred and Indicated resources include coal up to 130m below surface, while the measured resource includes coal up to 75m below surface. The deposit roughly covers a 6.5km by 4.5km area. The model is bounded by the Escarpment

Criteria	Commentary				
	Fault to the south, the Waimangaroa Gorge to the north, and the Mt William Fault to the east.				
Estimation and modeling techniques	 All available and reliable exploration data has been used to create geological block models which has been used for resource estimation and classification. All exploration drilling data is stored in acQuire and exported into a Vulcan drillbole database. 				
	 Mapping data is stored in acQuire and exported into a vulcari diministe database. Mapping data is stored in acQuire and exported into Vulcan. 				
	 A horizon definition has been developed and is used in the stratigraphic modeling process. 				
	• The model is subdivided into four distinct domains, each separated by large faults that dissect the project area. Each area is modelled for structure and grade separately.				
	• Vulcan is currently used to build the structure models. Grid spacing is 10m x 10m. This spacing was selected to be 1/5 of the minimum average point of observation spacing within a domain area.				
	• Vulcan's stacking method was used to produce the structure model. This method triangulates a reference surface (coal roof) and then stacks the remaining horizons by adding structure thickness using inverse distance.				
	 The maximum triangle length for the reference surface was set to 1,400m. 				
	 Based on geostatistics for full seam thickness the maximum search radius for inverse distance is 1500m. The inverse distance power is set to 2, with maximum samples set to 8. 				
	 Structure grids are checked and validated before being used to construct the resource block model. 				
	• Vulcan is used to build the block models and to estimate coal qualities. The process is automated using a Lava script.				
	• The coal structure surfaces for each domain, along with LiDAR topography surface, Quaternary unconformity surface, and other mining related surfaces for Cascade and Escarpment are used to build the block model. The block dimensions are constructed at 10m x 10m. Vertical thickness for coal blocks is 0.5m, whilst overburden blocks are set to 5m maximum thickness.				
	• Overburden characterisation for AMD purposes is modelled in a separate estimation step utilising the same stratigraphic structure grids.				
	• Grade estimation is performed utilising Vulcan's Tetra Projection Model. The main seam, and two discontinuous rider seams in each domain is estimated for ash, sulphur, air-dried moisture and in situ moisture. Volatile matter, crucible swell index, and calorific value are estimated on the ash pass.				
	• Geostatistics have been performed on the coal quality dataset to examine and define the estimation search parameters for each variable. The maximum search radius is set to the maximum range of influence found in the semi-variogram for each variable.				
	Grade estimation is computed using an inverse distance squared function.				
	 Various methods have been used to check the validity of the block estimation. This includes manual inspection of the model, QQ plots of the model qualities vs coal quality database and other comparison tools. 				
	 Some mining reconciliation has been completed on the resource model to examine model accuracy within the Cascade and Escarpment mining areas. To date, the results are within the bounds of expected variability based on resource classification used and mining rates. No other bulk reconciliation has been completed. 				
	 Resource tonnages within the model have been discounted where the resource falls within an area of historic underground workings. The primary mining method utilised historically on the Denniston Plateau is bord and pillar mining. Some extraction used a water-based coal extraction (hydro mining) when pillaring. Historic extraction rates are estimated using mining extraction reports, interviews with miners, underground mine plans and tonnage reports. These factors were used in the resource classification confidence and for depleting the resource tonnages. Behro Delbear Australia Pty Limited (PDA) pates that Pathwat has adapted a precedure such as a second second				
	 Define Dolbear Australia Mty Limited (BDA) notes that Bathurst has adopted a procedure over 				

 Behre Dolbear Australia Pty Limited (BDA) notes that Bathurst has adopted a procedure over old workings of discounting the estimated resources to account for the depletion of coal from underground mining and due to possible structures not identified by drilling. Based on reconciliations from mining to date at Takitimu and Cascade, this approach has been established as a reasonably reliable, if somewhat conservative, method of estimating

Criteria	Commentary
	resources where there are clearly areas of depletion. BDA accepts that this appears to be a reasonable approach but cautions there will be areas where the resources may differ from the estimates.
Moisture	 Resource tonnages are reported using natural moisture, calculated from air-dried relative density, air-dried moisture and in situ moisture using the Preston Sanders equation. Block air-dried density is calculated from the block air-dried ash value using the ash-density relationship derived from the project dataset. A fraction (< 0.1%) of blocks were not estimated for moisture and have been assigned average values based on the permit in which the block is located.
Cut-off parameters	 Structure grids have been developed based on a 50% ash cut-off (except for Sullivan that applied a 25% ash cut-off). Some higher ash samples are retained within the coal quality dataset to allow simplification of the seam model, especially in Whareatea West where higher ash partings become more abundant. No lower cut-off has been applied. There is an inherent minimum limit to ash samples in modern results due to a laboratory detection limit of 0.17%. Ten modern ply samples fall below this detection limit, while a further 62 historic ply samples have ash values at or below this limit. Coal resources are reported down to a seam thickness of 0.5m (one block). Ash cut-offs applied for resource reporting are: 35% for Whareatea West 25% for Sullivan 25% for Coalbrookdale
Mining factors or assumptions	 Minimum seam thickness is set at 0.5m or one block in height. No other mining factors such as, mining losses and dilutions have been applied when developing the resource models. The development of the Escarpment, Whareatea West and Sullivan Coal Resources assumes mining methods consistent with similar or other BRL open pit mining operations. The preferred mining method is conventional truck and shovel open pit mining at an appropriate bench height. The Coalbrookdale and remaining Cascade resource is considered to be an underground coal resource.
Metallurgical factors or assumptions	 BRL's current understanding of coal washability and yields on the Denniston Plateau has driven the ash cut-offs applied for resource reporting within the project area. All in situ coal extracted from the Whareatea West resource will require beneficiation. Contaminated and diluted coal from Sullivan, Deep Creek and Escarpment resources will required beneficiation. All coal requiring washing is assumed to be processed at the existing Stockton Coal Handling and Processing Plant (CHPP) located approximately 20 km to the northeast. Processes used at the Stockton CHPP apply standard coal industry practice using proven technologies.
Environmental factors or assumptions	 Open pit mining and coal transport will be conducted amid environmentally and culturally sensitive areas. The proposed mining sites are a likely habitat for endangered snail and kiwi species. High rainfall rates, acid-generating overburden and historical acid mine drainage are all concerns that have been addressed. Mining within the Escarpment Mining permit has all necessary approvals in place. Similar environmental values occur within the remainder of the Denniston Plateau. It is assumed that any constraints imposed on BRL in terms of environmental protection will not be prohibitive to economic resource extraction. No other environmental assumptions have been applied in developing the resource model.
Bulk density	 A total of 580 relative density (air-dried) sample results are available for the Denniston project area. The samples are distributed throughout the project area and the sample set covers a complete range of ash values from <0.17% to 93.5%.

Criteria	Commentary
	 From this dataset an ash-density curve was generated with a co-efficient of determination of R²=0.9869. After grade estimation, density was then calculated using the block ash value and the derived density equation. An in situ density value was then computed using the Preston Saunders method. In situ moisture determinations have been collected from drill core and from bulk samples.
Classification	 BRL classifies resources using a multivariate approach. Coal resources have been classified on the basis of geological and grade continuity balanced by relative uncertainties surrounding historic underground extraction and proximity to faults. Closely spaced drilling with valid samples increases the confidence in resource assessments. The confidence is reduced by: A block being within an underground worked area due to extraction rate uncertainty. A block being within 20m of an underground worked area due to uncertainty with historic survey of the workings and georeferencing of mine plans. A block lies within an area of steep structure dip, usually in areas of large faults. A block lies within an area of thin or splitting seam resulting in uncertainty of geological continuity. If an area is within an area worked by historic underground mines the resource is considered as Inferred as a minimum.
Audits or reviews	• A comprehensive internal review of the resource model has been carried out by BRL.
Discussion of relative accuracy/ confidence	 Statistical comparisons between the resource block model and the coal quality data set have been carried out and are within expected ranges. Techniques utilised include QQ plots and probability plots. Cascade mine utilised the Denniston resource model for mine planning and scheduling. Production reconciliation for the last 12 months of production showed that ROM coal production was more than 10% in excess of that modelled.

Section 4 Estimation and Reporting of Ore Reserves – Denniston Plateau

Project (Whareatea West only)

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	 The Coal Resource estimates used are the Coal Resource estimates undertaken by the BRL resource geologist as outlined in Section 1-3. There are no Coal Reserves reported for Escarpment, Sullivan or Coalbrookdale blocks. Production from Escarpment began in 2014, and the mine was placed in care and maintenance in May 2016.
	 A 3D block geology model generated by BRL was used for in situ resource definition and supplied to Golder Associates NZ Ltd (Golder). for the Preliminary Feasibility Study (PFS) 2015. The Resource model and PFS was updated by BRL and Golder in 2021, following a review of available data.
	 The model was depleted to account for areas where previous underground extraction has taken place, based on historic recovery factors described by BRL in Section 3 of Table 1 for Reporting of Ore Resources (JORC).
	Coal Resources are reported inclusive of the Coal Reserves.
	• The 3D block mining model that was generated using Vulcan [™] software and included minimum seam thickness, mining losses and dilution.
	• Pit design extents were established using standard Lerchs-Grossman pit design techniques and based on preliminary economic and geotechnical inputs.
	 Mine design strips by bench were applied to develop a mine schedule and used as a basis for reporting reserves.
	• Reserve estimates include consideration of material modifying factors including: the status of environmental approvals; other governmental factors and infrastructure requirements for

Criteria	Commentary
Criteria	 selected open pit mining methods and coal transportation to market (per JORC Code 2012). Reserve tonnages have been estimated using a density value calculated using approximated in-ground moisture values (Preston and Sanders method). As such, all tonnages quoted in this report are wet tonnes. All coal qualities quoted are on an Air Dried Basis (adb). Approximately 92% of total reserve coal tonnes require washing to make a marketable product. Marketable coal tonnes are reported using an estimated total moisture content of 10% converted from in situ using ASTM D3180. No Coal Reserves were reported in 2021 due to incomplete geological model and PFS updates.
	 A decrease in the previously reported Definition Coal reserves in 2020 printing attributed to the following changes: raw ash cut off values were lowered from 50 to 35% in Whareatea West; and an updated economic model and pit designs. Work is continuing to upgrade information to update reserves on Escarpment, Sullivan or Coalbrookdale.
Site visits	• Sue Bonham-Carter (the Competent Person) is an employee of BCP Associates and visits the project area on a regular basis.
Study status	 The reportable Coal Reserve is based on a Pre-Feasibility Study (PFS). A PFS was conducted in 2015 by Golder on behalf of BRL. The PFS assessed an updated Life of Mine Plan for the Escarpment Mine and planned extension into the adjacent Whareatea West and Coalbrookdale Blocks.
	 A 2021 PFS update by Golder incorporated assessment of the BRL controlled Sullivan Coal Mining License and a re-assessment of material modifying factors including production rate, cut-offs, economic assumptions, specifically coal sale price and development capital options analysis.
Cut-off parameters	• Minimum seam thickness is set at 0.5m or one block in height in the 3D resource block model.
<i>Mining</i> <i>factors or</i> <i>assumptions</i>	 A key project assumption is the use of fit-for-purpose coal processing and transport infrastructure that already exists in the Buller coalfield. The infrastructure is owned by BT Mining Limited (65% Bathurst Resources Limited / 35% Talley's Energy) at the operating Stockton Mine, reducing the requirement for BRL to invest in new infrastructure. This infrastructure has sufficient excess capacity which could be utilised by BRL for processing and transport of Escarpment and Whareatea West coals at the rates planned in the PFS study. The Stockton infrastructure includes a Coal Handling and Processing Plant (CHPP), ROM pads, water treatment plant, lime dosing plant, workshop, offices, aerial ropeway, train load out, water treatment structures, weighbridge area, contractor's laydown yard and power station. The mining method proposed is conventional diesel powered truck-excavator operation. This utilises truck and excavator for waste movement, while coal is loaded using a combination of loaders and excavators with haulage to the run-of-mine (ROM) hopper CHPP, or stockpiles using dump trucks. The fleet is assumed supported by additional equipment including dozers, grader and watercarts. The selected mining method is based on long term experience of local conditions. This methodology is consistent with those used previously at the BRL Escarpment mine and neighboring BRL Cascade mine as well as other operating mines in the vicinity. Modifying factors were applied in the mining block model taking into account: Loss and dilution assumptions at each seam interface (roof and floor); Minimum mineable thickness; Ornaminated coal production assumptions (wash plant feed proportions); and Contaminated coal production assumptions (wash plant feed proportions); and Contaminated coal production assumptions (wash plant feed proportions); and Coal wash plant perfor

riteria	Commentary		
	Mining Factor	Model Value (in m)	Description
	Roof Loss	0.15	Coal lost at the seam roof during cleaning
	Floor Loss	0.15	Coal left in the floor at the end mining
	Roof Contamination	0.25	Coal contaminated (coal mixed with waste) at roof
	Floor Contamination	0.25	Coal contaminated (coal mixed with waste) at floor
	Roof Dilution	0.05	Roof stone left behind by cleaning and included in mined coal
	Floor Dilution	0.10	Floor stone mined with the coal

- Coal quality estimation and dilution and loss adjustments were incorporated in the block model. Run of Mine (ROM) coal was separated into face (clean) and wash coal products.
- Clean ROM coal will be trucked directly via an existing road network to the BT Mining operated rail loadout located at Ngakawau. Coal that requires washing to make a saleable product is assumed trucked via a proposed purpose built coal haul road from the mine to the BT Mining owned Stockon CHPP.
- Mining horizons were modelled in two passes; one for Clean (bypasses the wash plant) and one for Wash.
- Additional recovery factors applied include losses for historical underground extraction, and where the overburden material has collapsed into the coal seam.
- Factors were applied in the mining model using triangulations based on digitised historic plans of the underground and surface workings. Factors applied vary by model area and intensity worked.
- Plant Feed Tonnages were calculated by removing a percentage of the tonnes on the basis that a proportion of dilution/coal is rejected by grizzly and breaker. 20% of the dilution was assumed to be removed and 2% of the coal was assumed to be lost.
- Plant Feed qualities were adjusted to reflect the above coal and dilution losses.
- Product Tonnages were calculated using 2 linear Coal Washability yield relationships based on feed ash quality, as follows:
 - Face Wash Feed Coal Product Yield = 95.8990 (1.1497 * Plant Feed Ash); and
 - Contaminated Wash Feed Coal Product Yield = 93.5218 (1.1196 * Plant Feed Ash).
- Product ash was calculated using a relationship for ash beneficiation by feed type:
 - Face Coal Product Ash =max(9.5140 * (2.7182818~(0.0121 *Plant Feed Ash)),5.60).
 - Contaminated Coal Product Ash = max(3.2410 * (2.7182818~(0.0245 * Plant Feed Ash)),3.43).
- Product swell (CSN) was calculated using separate CSN vs. product ash relationships for each area (Coalbrookdale, Sullivan, Escarpment, Whareatea West), provided by BRL by area and further limited to a maximum CSN by defined boundaries interpreted by BRL.
- RoMax was calculated using a linear relationship between RoMax and the Volatile Matter (% dmmsf) that has been developed by BRL as follows:
 - Product RoMax = -0.042 * Product Volatiles (dmmsf) + 2.4885
 - \circ \quad Product CV estimated by area based on relationships for:
 - ESC, 35<vm<40: cv_ad = -0.3817*as_ad + 34.717
 - WW, vm<30: cv_ad = -0.4235 * as_ad + 37.04
- All other qualities were based on weight averaging with stated assumptions for combination and/or separation of materials (e.g. breaker loss 2% coal & 20% of diluent material).
- Plant yield and product ash calculations are consistent with feasibility level assumptions for the currently operating Stockton processing plant which operates with similar, but not the same, types of coal from within the same coal field.
 - Whareatea West in particular has a significant amount of high ash coal requiring processing (92% of total) and is high rank. Washability of this coal has not been adequately characterized, this is a considered a project risk. Further coal washability testing will be required to properly assess the value of the coal within the areas of

Criteria	Commentary					
	 interest. Lerch Grossman (LG) pit optimization techniques were used to generate pit shells based on preliminary economic and geotechnical inputs last updated in August 2021 by Golder Associates (NZ) Limited. The optimisation considered all resources in the model within the BRL controlled permit boundaries and was constrained by pertinent environmental considerations. Based on a blend optimisation study, the PFS assumed that BRL can blend all product coal (except minor amounts of high sulphur coal) to a specification that will achieve a benchmark Hard Coking or Semi Hard Coking price. The mine design for the base plan and schedule is derived from the optimization results. Initial pit stages focused on lower strip ratio areas initially to generate higher cashflows early in mine life. The PFS base case targeted an average of 500 thousand tonnes per annum (ktpa) of marketable coal product from Whareatea West. At this rate the mine life is estimated to be approximately the first 5 years with a ramp up to full production over 3 years. Inferred Mineral Resources are included in the pit design shells and mine schedule, being less than 2% of total. Waste disposal design assumed a material swell factor of 1.25, accounting for a degree of compaction is achieved for AMD (Acid Mine Drainage) control. Geotechnical assumptions for slope design were based on parameters derived for Escarpment mine design in the DFS by Golder in 2010, supported by results of a preliminary seismic assessment undertaken by Golder in 2013. PFS Basis of Design criteria are presented in the following tables. 					
	Engineered Land Fill (ELF) Material Swell Factor 1.25 (assumes some degree of compact control)					
	Ex-pit ELF	Overall batter slope:	18°			
	In-pit backfill	Overall batter slope:	*18° to 28°			
	* Slope angle varies depending on location and status (i.e. temporary or final) Pit Wall Profiles					
	Horizon Wall Profile					
	Overburden	Bench Height: Batter Slope: Berm Width: Overall wall angle:	15 m 65° 11.5 m 39°			
	M2 Seam	Bench Height: Batter slope:	15 m maximum 51°			
 Rehabilitation requirements and methodology were presumed to be similar t existing Escarpment Mine Permit consented area. 						
Metallurgical factors or assumptions	 Contaminated and diluted coal from Denniston resources will require beneficiation. Approximately 92% of Coal Reserves will require washing to make a marketable product. All coal requiring washing was assumed to be processed at the existing Stockton CHPP located approximately 20km to the northeast and accessed via a BRL proposed new coal haul road. The washed coal transport system comprises a combination of road and aerial ropeway from Stockton mine to the Ngakawau loadout facility for rail transport to the port. Processes used at the proposed CHPP are standard coal industry practice using proven technologies. Clean coal not requiring washing would be transported by road directly from the Denniston plateau to Ngakawau on the coastal flats. This approach allows for the use of existing infrastructure capacity within the region and reduces start-up capital requirements significantly for the project 					

 Processing plant relationships for yield and product qualities are based on limited samples only. The metallurgical data was developed from the Stockton CHPP washability curves and updated in 2013 to a linear curve for homogeneous washfeed coal. These have been assumed to be representative of the expected performance of a coal processing plant in the South Buller coal field for the PFS. This remains a significant area of uncertainty, both with projected yields and resulting washed coal product qualities. No pilot scale test work has been completed for processing of Escarpment or Whareatea West Coal Resources. Deleterious elements modelled included sulphur and ash. Concentrations are within the marketable range. Phosphorous was not modelled, but analyses indicate that this is low relative to other traded coals, consistent with coals produced from the earby Stockton mine. Rejects and tails were assumed to be disposed of within the adjacent Stockton facilities. Environmental An Assessment of Environmental Effects (AEE) required under NZ environmental legislation, the Resource Management Act 1991 (RNA) was completed previously for the Escarpment Project with regulatory permits granted in June 2014. The Whareatea West, Sullivan and Coalbrookdale Blocks are considered to have similar effects but will require lodgment of a new AEE and new consents prior to development. Mining access from the Department of Conservation (DoC) was granted for the Escarpment blocks west of Trent stream on 23 May 2013. Whareatea West, Coalbrookdale and Escarpment blocks west of Trent stream and the new proposed road coal transport road from Escarpment blocks west of Trent stream and the new proposed coad coal transport road from the arany how weateral resources of New Zealand, which are largely situated on, and accessed via, land owned and administered by the DoC. The Ministry of Business, Innovation and Employment (MBIE) are in favour of continuing	Criteria	Commentary
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 expected methods and procedures that would be developed for Denniston Plateau Project. The Escarpment detailed design and comprehensive water management plans were finalised. The planned access road upgrade has been completed. Development started in July 2014 but subsequently was largely put on hold in response to a market downturn in 2016. Required additional baseline studies are in progress and applications for permits and access will be developed. In 2017 BRL acquired (100% ownership) of the Sullivan CML where the ex-pit waste rock storage area is proposed. Overburden rock is potentially acid generating (PAG). Specific management requirements include monitoring, drainage infrastructure, capping and water treatment in order to meet expected regulatory requirements. BRL has completed an AMD Management Plan for the Escarpment Mine Project in collaboration with specialist consultants. This plan is presumed to be relevant for management to Denniston Plateau Project. The project is considered to affect amenity, landscape and ecological values on the Denniston Plateau. High value across wore averided in the PES design as for as protected in the project. 	Environmen- tal	 An Assessment of Environmental Effects (AEE) required under NZ environmental legislation, the Resource Management Act 1991 (RMA) was completed previously for the Escarpment Project with regulatory permits granted in June 2014. The Whareatea West, Sullivan and Caalbrookdale Blocks are considered to have similar effects but will require lodgment of a new AEE and new consents prior to development. Mining access from the Department of Conservation (DoC) was granted for the Escarpment Mine up to a buffer for Trent Stream on 23 May 2013. Whareatea West, Coalbrookdale and Escarpment blocks west of Trent stream, and the new proposed road coal transport road from Escarpment to the CHPP require access arrangements from the landowners. In 2017, a new coalition government was elected, which comprises the New Zealand Labour Party and New Zealand First with confidence and supply from the Green Party of Aotearoa. In early November 2017, the new government announced their opposition to the development of new mining projects on the conservation estate (land owned and administered by the DoC). The Ministry of Business, Innovation and Employment (MBIE) are in favour of continuing to develop the mineral resources of New Zealand, which are largely situated on, and accessed via, land owned and administered by the DoC. This situation has resulted in some uncertainty within the mining and associated industries. In 2020 the New Zealand government updated the National Environmental Standards for Freshwater regulations, designating the drainage of natural wetlands a non-complying activity. Due to problems with interpretation and application of these regulations and unintended consequences particularly with the ability to increase housing stock, in May 2022 the Government issued proposed changes to these regulations for public consultation. The proposed changes that would be development thus reducing consenting uncertainty for the Whareatea West mining gras. BRL was assisted

Criteria	Commentary
	consideration of snails, kiwi and rare flora. These will require further consideration at the next study level. Consent conditions and mitigation of effects will require significant effort in progressive and end-of-mine rehabilitation. This is expected to be similar to those imposed on the Escarpment project.
Infrastructure	 Road access to the Escarpment Mine has already been established and an upgrade completed as part of initial development to date. A new coal transport road must be designed and constructed from Escarpment ROM stockpile area to the Stockton CHPP site. The Upper Waimangaroa – Stockton road will be an estimated 19.7km in length and constructed to accommodate up to 60t off-highway road trucks. Of this length, 7.0km of new construction will be required, and 12.7km will be either on Stockton mine haul roads (6.8km), or on upgraded existing access roads (5.9km). The new sections of road will require regulatory approvals. Allowance has been in the project cost estimation for sustaining capital expenditure for fixed infrastructure owned by BRL Electrical Power:
	 The Denniston Plateau Project is near existing power line infrastructure (110 kV and 11 kV) owned by Transpower and Buller Electricity. Power requirement have been estimated based on the existing Escarpment Mine, with additional allowance for water management at the Whareatea West Block and Sullivan North ex-pit waste disposal area. The existing 11 kV supply to Mt Rochfort repeater is rerouted in two stages to accommodate the planned mining sequence in the WHW pit. Specific design and
	 consultation will be required at next study level. Offices, ablutions block, workshop and store detail design for the Escarpment project was for a production rate of 500 ktpa, this design has been used and factored for the 500 kpta base case for this project.
	 Fuel will be stored in a single central location at Escarpment, the tanks will be supplied by a contracted supplier, factoring of the Escarpment fuel island was applied for the 500 ktpa case. Mining development includes waste and coal haul roads between elements, ROM, waste
	 Explosive Magazine is assumed to be supplied as part of an explosives contract. The West Coast has a long history of mining, and so labour, services and accommodation are readily available in Westport located 16 km east north east or other small towns and hamlets located along the coastal strip.
	• KiwiRail Holdings Ltd. operates the existing rail line on the coastal strip. The line has the capacity currently to meet the proposed export coal production.
Costs	 Annual mine operating costs and capital requirements have been estimated to reflect the project mine plan and production schedules. Capital and operating costs were estimated by generally accepted industry standards for the PFS Escarpment Mine detail design. Costs are based on a combination of factored costs, bench marking similar nearby BRL operations, and quotations from suppliers. Coal trucking costs were estimated as unit cost per tonne based on a local contractor quote. The development cost of road extension from Escarpment ROM stockpile area to the CHPP was adapted from costs incurred on a previous upgrade of the access road to the Escarpment mine area and using BRL's local experience.
	 Rail transport cost and Lyttelton port handling charges were based on a quote received from KiwiRail and the port authority and bench marked with other nearby operations. Mining costs were estimated based on actual mining contractor costs from nearby existing BRL operations at Escarpment, Stockton and the recently closed Cascade Mines, bench marked with other operating mines in the region and supplier/contractor quotes
	 Water treatment and mine closure costs were estimated by factoring Escarpment costs completed at detail design stage. Treatment plants were assumed to be required for Escarpment, Sullivan and Whareatea West Block later stages.
	 Post closure attercare was assumed for the purposes of this study to be included in a bond required to be posted in favor of the West Coast and Buller District Councils as condition of

Criteria	Commentary
	 consent and to DoC as condition of access arrangements. Five main royalties/levies were addressed in the cost model; Crown (New Zealand Petroleum and Minerals 2008), site specific rate for hard to semi hard coking coal; Mine Rescue and
	Energy Levy; a private royalty agreement with L&M mining has been allowed for in the cost model, FME carbon regulatory cost and land rates are applied as per appropriate NZ legislation
Rovenue	Pafer to Sub section entitled "Market assessment"
factors	 Relet to oub section entitled market assessment . Commodity and capital prices are quoted in New Zealand dollars (NZ\$)
Markat	 Commonly and capital prices are quoted in New Zealand dollars (NZ#). Economic and Whereaster West Coal Descurres have been designated a market product.
assessment	 Escarpment and whareatea west Coal Resources have been designated a market product type on the basis of a boundary separating maximum vitrinite reflectance (RoMax) above and below 1.0%.
	 High RoMax coal (>1.0%) is assigned a hard-coking coal (HCC) benchmark price; Low RoMax coal (<1.0%) is assigned a semi-hard coking coal (SHCC) price; All Whareatea West Coal Resources fall into the HCC category and most, but not all Escarpment Coal Resources fall into the SHCC category.
	• Options to produce a single blended product from Escarpment and Whareatea West Coal Resources have been assessed. There is a high risk that a single-product Denniston blend would not be valued by the market as equivalent to a HCC, and that operational and infrastructure cost benefits would not offset lower price and other market risks.
	 The option to combine and blend coal from Escarpment and Whareatea West with production from Stockton and other West Coast producers offer advantages to Denniston Plateau project, primarily in terms of reduced market and revenue risk, as well as reducing required investment in coal processing and transport infrastructure by using available capacity in existing systems.
	 Product moisture above 10% can be expected to be looked upon unfavourably by potential customers. A price penalty is expected for total moisture levels above 12%. Current performance of the Stockton CHPP indicates that moisture levels less than 12% for washed coal from Escarpment and Whareatea West should be achievable; however, this remains an area of uncertainty.
	• The PFS study identified confirmation of the performance of this coal through the Stockton CHPP to be a high priority for the next level of study.
	• Internal studies have been completed to blend Denniston coals with the coals in the Stockton Life of Mine plan and concluded a clear uplift in economic value is achieved.
	 Coal prices were documented by BRL and were reviewed and applied by Golder in 2021 for economic pit shell evaluation.
	 High sulphur coal products > 3% adb are discounted to 60% of the HCC benchmark estimate based on BRL established market for Granity blend.
	• Thermal coal is considered uneconomic at the sale price assumption and excluded from the Coal Reserve tonnes.
	• Total marketable coal production of 500 ktpa Whareatea West, plus expected future production from Stockton is consistent with sales levels of recent years and is within the transport and processing capacity of existing processing, transport and port infrastructure.
Economic	A discounted cashflow analysis was conducted to assess the potential reserves.
	• The analysis only considered Measured and Indicated Coal Resources. The discounted
	cashflow analysis shows the project to be economic. In this assessment, a zero benefit was
	assigned to Interred Coal Resources and they were treated as a waste material. This indicates that the DES design of the start actional is associated as a waste material.
	indicates that the PFS design, although not optimal, is economic, and therefore supports the stated mineral reserve
	 In the PES design BRI has chosen to accent a risk that the Inferred Resources may not
	eventually be converted to Proven and Probable Reserves
	 Sensitivity analyses have been undertaken for kev input parameters including coal wash plant
	recovery, coal sale price, foreign exchange (FOREX) rate, mining and processing cost, and
	inclusion of Inferred Resources.
	• The project profitability is sensitive to mining (due to the uncertainty in previous UG

Criteria	Commentary
	extraction) and CHPP coal recovery and coal sale price.
	 Capital expenditure is included in the analysis.
	• Foreign exchange rates, sourced from BRL, are based on consensus published short term
	rates and other publicly available forecasts.
Social	Interested stakeholders considered include:
	 Local communities
	• Ngati Waewae (a local indigenous group with legal status, referred to as lwi in New
	 Regulatory authorities including the West Coast Regional and Buller District Councils West Operat Development Trust
	 West Coast Development Trust Fish and Come New Zeeland
	 New Zealand Petroleum and Minerals
	• Friends of the Hill (a local NGO interested in the project)
	 Kawatiri Energy Limited
	 New Zealand Historic Places Trust
	 Department of Conservation
	• L&M Mining
	 New Zealand Forest and Bird and various other NGO groups
	 Transpower and Buller Electricity
	 There is an agreement in place to retain public access to Mt. Rochfort repeater.
	• The existing Escarpment Mine consent conditions include re-establishment of rivers and
	boulder fields to mimic previous pavement areas, reinstatement of previous 4x4 or other
	walking tracks impacted within the mining footprint.
	• Denniston Plateau is expected to be subject to similar consent conditions. These were
0//	accounted for in the economic analysis.
Other	Three primary project approvals required are; Mining a parenti under the Crown Minerale Act 1001
	 Mining permit under the Grown Minerals Act 1991, Consents from the West Coast Regional Council and the Buller District Council under
	the Resource Management Act 1991 (RMA)
	\sim Land Access:
	- An access arrangement and concessions for activities from the Minister of
	Conservation in respect of activities on the DoC lands.
	- Land not administered by DoC, and not owned by BRL, will also be subject to an
	access arrangement with the landowner.
	• The project is located primarily on land within the Mt. Rochfort Conservation Area that is
	administrated by the DoC. The authority for access for the first stage of development was
	granted for the Escarpment MP area up to the Trent Stream.
	• The Coalbrookdale area has an access arrangement in place for two underground mines and
	associated surface infrastructure. Additional access arrangements and concessions are
	required for the proposed surface mine expansion west of Trent stream, for Whareatea West
	and Coaldrookdale blocks.
	The proposed expansion also includes parts of the Coalbrookdale underground mine but avaluades the Coalbrookdale Eaphouse and associated public track listed as Category 1 with
	the NZ Historic Places Trust
Classification	The total proportion of Probable Coal Reserves which have been derived from Measured
Chaochhoudion	Mineral Resources within the Whareatea West economic pit extents is 73% This is primarily
	attributed to the uncertainty associated with coal recovery estimates for the coal processing
	plant.
	Coal Reserve tonnages reported have been converted from Measured and Indicated
	Resources only.
	The result appropriately reflects the Competent Person's view of the deposit.
Audits or	No audits have been performed at the time of reporting the 2015 PFS results.
reviews	• A coal washability testing programme for the western margin of Whareatea West was started
	in 2020. The completion of this program and incorporation of the results into the resource and

Criteria	C	Commentary
		reserve model is planned by BRL.
Discussion of relative accuracy/ confidence	•	BT Mining (65% owned by BRL) currently operates the nearby Stockton Mine that supplies coking coal to the international market and also several mines elsewhere in the South Island (Takitimu and the recently closed Canterbury Coal) supplying domestic thermal markets. The conditions on the Plateau, stakeholder, regulatory, mining processes and environment are well understood.
	•	The reserve estimate is based on a robust resource and reserve modelling process. However, the accuracy of the estimates should be validated by more detailed studies and is subject to risks as discussed below.
	•	BRL believes that assumptions made in the PFS are reasonable and achievable by a well operated and managed operations. Risks and uncertainties identified in the PFS should be used for the purposes of guidance in further feasibly studies and detailed design.
	•	 The key risks and areas of uncertainty identified are: Uncertainty in future coal sale price, as well as historic market volatility. Potential for lower than estimated wash plant yields, particularly for Whareatea West, which is considered a major risk. Whareatea West coal washability and product ash levels requires further washability testing programmes to confirm performance of this coal through the Stockton CHPP (ash, yield and moisture). Further float sink tests and reviews of plant design requirements should be undertaken as soon as is practical as this is expected to have a significant impact on project success. Higher than expected product moisture due to coal processing may result in penalties or shipping delays. Mitigation measures will depend on tonnages and the blending strategy at time of production. Estimated uncertainty for depletion from previous underground worked areas is +/-10%. This correspondingly affects remaining coal quantity as well as quality estimates. Local historic production numbers are unavailable and few available records are available that accurately place the UG workings location within the coal seam. This may result in lower than estimated Coal Reserves, delays in production and safety issues. The risk can be partially mitigated by void mapping and management, experience and knowledge gained from nearby operations. Reconciliation of coal recovery against the reserve model once operating is also key. Possible reserves loss due to conditions of consent, buffer or standoff required along Escarpment plateau edge, Whareatea River, ecological or additional mine heritage areas (a 50 m buffer applied from Category 1 areas, Coalbrookdale Fanhouse and public walking track, included in PFS). Greater dilution than estimated due to presence of underground workings and high ash partings in Whareatea West, will require high capability coal winning operators and coal quality support team. Possible implementation of sophisticated co
		 The PFS assumptions consider the experience from Escarpment Mine and have

The PFS assumptions consider the experience from Escarpment Mine and have incorporated some aspects into the design process in order to reduce adverse impacts however failure of any one of these approvals impact projects ability to proceed, and potentially cause development delays, additional costs or other negative impacts to the project. The permitting process for the Escarpment Mine was a lengthy process.

Criteria	Commentary
	 Access to the Sullivan CML (currently owned by BRL) is key to allow a cost-effective waste disposal areas for the Whareatea West block.
	• The control of AMD and post closure water treatment requirements will be dependent on the effectiveness of material management and capping construction methodologies.

Appendix A:





Figure 3: Denniston Plateau and the coal permits and licences within the resource model area



Figure 4: Plan showing the drilling dataset used to produce the resource model



Figure 5: Plan showing the structure contours of coal seam floor



Figure 6: Plan showing full seam thickness for the M2 Seam



Figure 7: Plan showing in situ full seam ash on an air-dried basis for the M2 Seam



Figure 8: Plan showing full seam sulphur on an air-dried basis



Figure 9: Plan showing full seam Volatile Matter on an air-dried basis


Figure 10: Plan showing the current resource classification polygons



Figure 11: Extent of underground workings and resource classification



Figure 12: Plan showing the Whareatea West reserve polygon

JORC Code, 2012 Edition – Table 1 Report for Stockton 2023

Section 1 Sampling Techniques and Data

• For Non-coal lithologies an indicative sample (~70g) from each meter is retained for geological

Criteria	Commentary			
	logging.			
	 RC generated samples with poor recovery (<3kg) are not submitted to the laboratory for analysis. Should there be poor recovery for the entire coal seam the hole is re-drilled if there is no specific reason for the poor recovery (e.g. presence of underground workings within the coal seam). BT Mining Ltd is satisfied that the RC holes have taken a sufficiently representative sample of the mineralisation and minimal loss of fines has occurred. 			
	 Downhole geophysics has been undertaken on some reverse circulation drillholes. A combination of geophysical tools, including Natural Gamma, Calliper, Dipmeter, and Verticality have been run down holes. All tools are calibrated on a regular and systematic basis. All geophysical logging work has been conducted by contractor (currently Weatherford). Sample interval and recovery recorded in the field by drillers is validated and adjusted if required using geophysics after core logging and sampling. Once drilled drillholes are geophysically logged, the geophysical logs are correlated/validated against the recorded lithological logs to ensuring drill depths recorded in the field by the drillers are correct. 			
Logging	 All diamond core samples are checked, measured, marked up and finally photographed before logged in a high level of detail. 			
	 All diamond core samples are geologically logged in a high level of detail down to centimetre scale. Intervals are logged for lithology, colour, weathering type, stratigraphy, texture, hardness, RQD and defects. Logging is conducted using a defined set of codes. All percussion drillholes chip samples are geologically logged as per the sampling frequency, with 1m samples used to define the non-coal lithologies (overburden), and 0.5m samples for coal and other non-coal lithologies surrounding or contained within coal seam partings. The geological logs are validated against laboratory results. 			
	• Every discrepancy between the measured length of the core and the driller's length marked on the core blocks is investigated. Discrepancies are resolved by site geologists prior to sampling with the use of geophysical logs.			
	 The entire lengths of RC drillholes are logged. Where no sample was returned due to voids/cavities it is recorded as such. 			
	• Drillholes that have been geophysically logged with a suite of tools (as described above) are analysed extensively to validate, confirm and correct coal seam depths. Validation and, if required, correction of the geological logs against geophysics is undertaken to ensure accuracy and consistency. Verticality, calliper, density and natural gamma tools are checked regularly with standard calibration assemblies. The density calibrations are performed routinely - with blocks of known densities (aluminium and/or water).			
	 Trench samples Trench samples have a basic geological lithological log with the lithology being validated against 			
	the coal ply result.			
	• All trench, diamond drill and reverse circulation data is captured in a standardised BT Mining acQuire database.			
Sub-sampling	Diamond Core			
techniques and sample preparation	 No splitting of core is undertaken in the field or during sampling. Sample selection is determined in-house and is documented in the Stockton core sampling procedure. Clean coal core has been sampled to a maximum of 0.5m plies and adjusted for core loss and lithological variations. 			
	 Associated high ash coal intervals and partings were sampled separately to assess potential dilution effects where they are <0.5m thick. Intervals with non-coal material (>50% Ash) are excluded from sampling. 			
	• Samples are placed into pre-labelled plastic bags to ensure proper Chain of Custody, and then transported by BT Mining personnel to the laboratory for testing. The laboratory continues with the Chain of Custody requirements. Sample preparation is undertaken according to Industry Standards.			
	RC Chips			
	 No splitting of coal interval chips is undertaken. Non-coal intervals are sub sampled directly from the cyclone. 			

Criteria	Commentary					
	 Sample selection is determined in-house and is documented in a core sampling procedure. 					
	Associated high ash coal intervals and partings are sampled separately to assess potential					
	dilution effects where they are adjacent to coal seams. Intervals with non-coal material (>50°					
	Ash) are excluded from sampling.					
	• Samples are placed into pre-labelled plastic bags to ensure proper Chain of Custody, and th					
	transported by BT Mining personnel to the laboratory for testing. The laboratory continues					
	the Chain of Custody requirements. Sample preparation is undertaken according to Industry					
	Standards.					
	Trench samples					
	 No sub-sampling is undertaken with trench samples. 					
	Other					
	• A laboratory generated repeat sample is submitted with every 20th sample submitted to the					
	laboratory. This sample is provided a new sample ID with no reference to the original sample ID.					
A	The results of these repeat samples are reviewed monthly and any discrepancies investigation.					
Quality of	SGS New Zealand Limited (SGS) in Ngakawau and CRL (ACIRL Australia and Newman Energy					
assay uala and laboratory	subcontracted for specific tests) laboratories are used to undertake physical and chemical testing					
tests	and use industry Standards for all coal tests and systematic QA/QC procedures for all work. Both					
	processes employed are considered to be appropriate for coal sample analysis. Results are					
	reviewed in-house to ensure the accuracy of the data by a geologist and or a senior geologist					
	The laboratory has been inspected by the Company's personnel. Tests includes but are not					
	limited to:					
	Chemical Analysis					
	 Proximate analysis (ASTM D5142-2004 (modified)) 					
	 Sulphur (ASTM D4239-04A) 					
	 Total Moisture (ISO 589) 					
	Ultimate Analysis					
	 Carbon (AL038-in house) 					
	 Hydrogen (ASTM D3176-09) 					
	 Nitrogen (ASTM D3176-09) 					
	 Oxygen (ASTM D3176-09 (by difference)) Oxygen (ASTM D3176-09) 					
	 Sulphur (ASTM D3176-09) Forme of Sulphur (AS 1020 Dort 11) 					
	 Forms of Sulphur (AS 1038 Part 11) Chloring (ISO 587) 					
	 Ash composition (X-Ray spectrometry (Spectrachem)) 					
	 Ash composition (X ray spectrometry (opectraction)) Ash fusion temperature (ISO 540:1995(F)) 					
	\circ Trace Elements					
	 Calorific Value (ISO 1928-1995) 					
	Rheological and Physical Analysis					
	 Gieseler Fluidity (ASTM D2639-90) 					
	 Dilatational (Audibert-Arnu) (ISO 349:1975) 					
	 Free Swelling Index (ISO 501:2003(E) D720-91(1999)) 					
	 Hardgrove Grindability Index (ISO 5074, ASTM D409-02) 					
	 Relative Density (AS 10382111-1994) 					
	Petrographic					
	 Maceral Analysis (c/- Newman Technologies), Vitrinite Reflectance (ASTM D2798-99). Other tests 					
	Uther rests					
	 vvasnability testing as requested (AS 41501 using lioat-sink methods) (also used Boner did shaker table process) 					
	yly silaker lable process). 5% of all SGS analysed samples are sent to CRL for re-analysis, and then subsequently re-					
	tested at SGS. The result of these repeats are analysed by the database deplodest and the					
	resource geologist, on a monthly basis. Additionally, 5% of all SGS analysed samples are					
	retested by SGS, as part of their in-house QAQC process. These repeat test results are generally					
	within a 5% of their original results. Results outside of set tolerances are investigated.					

Criteria	Commentary			
Verification of sampling and assaying	 Most holes are geophysically logged, and verification of seam contacts is made through analysis of the geophysics. Assessment of coal intersections are undertaken by a geologist. Geophysics allows confirmation of the presence (or absence) of coal seams, accurate determination of contacts to coal seams, density measurements are used to guide sampling and identify high ash bands and or seam partings. Geophysical logs (dual density and gamma) are analysed extensively and used to validate and, if required, correct geological and sample interval logs to ensure accuracy and consistency. Coal ply results are provided by the laboratory and reviewed internally. No adjustments or calibrations are made to any coal quality data. In instances where results are significantly different from what was observed in geophysical logs or outside of local or regional ranges defined by previous testing, sample results are retested. Since 2006 all coal quality data has been directly submitted and stored in electronic format using acQuire SQL database software. Historical data has been validated and entered into the acQuire SQL database, from the original paper logs. These geological and geophysical paper logs are housed in the fireproof library in Westport. Historical data was transferred and validated against the current logging codes to ensure the data was valid. A limited number of twin holes have been drilled and returned acceptable duplicates of the existence of the paper logs. 			
Location of data points	 original holes. Stockton data is surveyed in Buller 1949 grid coordinate system in New Zealand with mean sea level datum (MSL). However, the Geoid correction for elevation is not undertaken due to the elevation of the mine-site (+150mm). All on-site survey data used in the resource estimation does not have the Coord correction on well. 			
	 All drillholes post 1998 are surveyed using real time kinematic GPS technology and are located within +/- 20mm vertically and +/- 10mm horizontally. Older drillhole collars were surveyed using conventional methods with an unknown precision. Historical underground workings plans are based off old hand drawn plans that have been georectified (in 2D only) by converting from cadastral links to the Buller 1949 geodetic grid. Topographic surfaces consists of "original", "cut", and "as-built" triangulations constructed from a combination of airborne LiDAR (accurate to within +/- 0.2m) collected for the whole of the Stockton site in June 2013, conventionally surveyed historical plans (unknown accuracy), GPS survey data (+/- 20mm) and GPS assisted laser scans using I-site laser scanner (+/-40mm). Drillholes with down-hole geophysics are surveyed for deviation with Weatherford verticality tool (+/- 15° azimuth and +/- 0.5° inclination). 			
Data spacing and distribution	 Exploration drillholes are variably spaced (<75m to 150m) depending on target seam depth, geological structure, topographic constraints, down-hole conditions due to underground workings, and the location of other drillholes. Coal quality drilling is drilled on either a 15m, 20m, 30m or 40m grid, depending on structural and or coal quality complexity of the coal seam in the area. No sample compositing is undertaken prior to initial laboratory ply analysis. Should details coal analysis be required, compositing is undertaken at the laboratory on a length weighted basis. This drill spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate to support a JORC Code 2012 resource classification and is suitable for this style of deposit. 			
Orientation of data in relation to geological structure	 Majority of holes are drilled vertically, due to near horizontal coal seams. A small number of exploration holes have been inclined. The purpose of these holes was to define significant geological structures and not for coal seam geometry and quality. No drilling orientation and sampling bias has been recognised at this time and is not considered to have introduced a sampling bias. 			
Sample security	 RC chip samples are collected in uniquely numbered pre-labelled plastic bags. Three to five samples are then placed in a large plastic bag for delivery to the laboratory. Core samples are placed in uniquely numbered pre-labelled plastic bags. Three to five samples are then placed in a large plastic bag for delivery to the laboratory. Prior to submission to the laboratory, a standardised dispatch form is generated for each drillhole, 			

Criteria	Commentary
	 within the acQuire SQL database software, which delineates the set of analysis to be undertaken and the logged sample numbers. Once samples and dispatch form are completed, the sample bags are validated and subsequently delivered to the secure laboratory sample receiving area by a BT Mining staff member. Once received at the laboratory, the consignment of samples is receipted against the sample dispatch documents. Any additional analysis is authorised by the site geologist. Sample residues are stored at the laboratory pending results and any possible repeat requests. Sample security is not considered a significant risk to the project.
Audits or reviews	 Integrity of all data (drillhole, geological, survey, geophysical and CQ) is reviewed by the site geologist before being used to model either structure or qualities. Periodic internal reviews are conducted, to verify that both core and chips are logged in a consistent manner. These reviews are done by the Competent Person. The BT Mining acQuire database was last externally audited in 2008 by Advanced DataCare. Suggested actions were reviewed and actioned where necessary. The BT Mining acQuire database is considered to be of sufficient quality to carry out resource estimation.

Section	2	Reporting	of	Exploration	Results
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Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	 Stockton CML37150 is a coal mining licence, which is due to expire on 1 April 2027, and covers the majority of the deposit. MP 52937 and 41810 mining permits are adjacent to the main CML37150. MP 52937 expires on 4 November 2030 and MP 41810 expires on 8 September 2024. BT Mining Ltd. has sole ownership of the operation, with ownership of the CML 37150 permit areas, and access rights to the Department of Conservation (DOC) owned MP 41810 and MP 52937. All operations at Stockton mine are currently undertaken within these CML boundaries. Royalties and Levies are applied to per tonne of coal produced.
Exploration done by other parties	 Within the CML37150, Solid Energy Ltd undertook all exploration on the tenement from 1987 to 2017. However, there have been earlier periods of work that have contributed to the understanding of this Resource. These programs include early drillholes associated with mining dating back to the late 1800s through into the 1900s, with New Zealand Coal Resources Survey preforming additional drilling in the 1980s. All historic data was checked and validated by the site geologist, on inclusion into the current acQuire database. All data is coded on usability for resource modelling.
Geology	 Coal resources on the Stockton Plateau are restricted to the Middle to Late Eocene aged Brunner Coal Measures (BCM). The unconformably overlies the Ordovician aged Greenland Group greywacke's and argillite's, which has been extensively intruded by Cretaceous granites and porphyry (Berlins Quartz Porphyry). Due to the stratigraphic nature of coal measures, the coal seams generally lie in a horizontal or sub-horizontal plane. The resource has a dip to the northeast at the northern end of the deposit and to east along the western margin. Folding and faulting through the coal seams can create localised changes in dips up to 80°. The Mangatini coal seams are the main coal seams of the Stockton deposit. The seams have been given the abbreviation M. There are the three seams M1, M2, and the M3. The M2 seam is the predominant seam over the deposit and splits into four segregated seams in places. The M1 seam is thin and discontinuous stratigraphically below the M2 and not considered for resource estimation. The M3 is a rider seam to the M2 however the seam is discontinuous and often not recovered during mining. The M3 is not considered during resource estimation.
Drillhole Information	• No exploration results are reported, therefore there is no drillhole information. This section is not relevant to this report on resource and reserve estimations. Comments relating to drillhole information can be found in Section 1.

Criteria	C	Commentary		
Data aggregation methods	•	No exploration results have been reported for the Stockton deposit.		
Relationship between mineralisation widths and intercept lengths	•	No exploration results have been reported for the Stockton deposit.		
Diagrams	•	 Diagrams can be found in the Appendix A for each of the following: Location map Map showing Land rights Map showing Mining Permit Geological QMap Map showing drillhole type/distribution Map of underground workings Map of Resource Classification Map showing M2 Ash distribution Map showing M2 Sulphur distribution Map showing M2 CSN distribution Map showing M2 ROMAX distribution Map showing M2 floor contours distribution Map showing M2 apparent seam thickness Stockton reserve pit shells 		
Balanced reporting	٠	No exploration results are reported, therefore there is no further exploration results to report. This section is not relevant to reporting resource and reserve estimations.		
Other substantive exploration data	•	Bulk samples to attain specific marketing related data have been taken as and when requested. The different stratigraphic units and rock defects have been assigned various strength parameters based on a mixture of recent and historic laboratory test data (UCS, shear box and ring shears), empirical classifications (RMR, GSI and Hoek Brown) and back analysis of existing cut slopes. Downhole in situ geophysical measurements have been undertaken to compare the strength variability with actual laboratory test data.		
Further work	•	Deposit is currently being mined. Close spaced grade control drilling will continue as mining progresses while additional exploration and near mining resource development drilling will be undertaken to define geological structures, seam structure and coal quality.		

Section 3 Estimation and Reporting of Coal Resources

Criteria	Commentary
Database integrity	 All GPS sourced and validated survey data recorded in the field is electronically transferred into the master BT Mining (BTM) acQuire SQL database. All drill core logging data is digitally entered directly into the BTM acQuire SQL database, with
	in-built enforced data validation rules. Drill chip geological logging data is manually entered into BTM acQuire SQL database, with in-built enforced data validation rules.
	• The acQuire SQL database has been designed to ensure data is entered and stored in a consistent and accurate manner by using dropdown menus of standard logging codes to prompt and constrain inputs. The database highlights out of range coal quality values, duplicate records/intervals, prevents overlapping intervals or depths that extend beyond total drillhole depth. All changes to the database are tracked and archived. Data correction and validation checks are undertaken internally as defined by the BTM Data Validation Standard before the data is used for modelling purposes.
	• All ply coal quality data is imported each night, using an automatic import of the laboratory generated electronic results (comma separated text file with a standardised format, saved to a secure shared server location).

Criteria	Commentary		
	 Once all validation is completed all drillhole data is signed off by the responsible geologist. On completion of the data sign-off process the data is locked in acQuire and cannot be adjusted unless requested by the resource geologist. The BTM acQuire SQL database is administered by a part-time geological database administrator who has an intimate knowledge and understanding of this dataset. Data validation checks are run routinely by the site geologist using acQuire software validation routines. All validation concerns are referred to the resource geologist and rectified accordingly. The BTM acQuire database was last externally audited in 2008 by Advanced DataCare. Suggested actions were reviewed and actioned where necessary. 		
Site visits	 The Competent Person, Mark Lionnet, has a full-time role with Bathurst Resource Limited as the Export Project Manager with a high level of interaction with the Stockton geologist. Regular visits have been undertaken by the Competent Person. 		
Geological interpretation	 There is sufficient confidence in interpretation of geological stratigraphy, structure and seam correlation/continuity though it is variable across the Stockton area. Mining activities supports a good confidence in the geological interpretation of the deposit. The data used in the geological interpretation included field mapping, drillhole data, core logging data, geophysical logs, sampling, coal quality laboratory testing and structural interpretations. Residual variability exists concerning geological structure along/within the major fault zones, resulting in a lower level of resource confidence. This variability will influence the local estimates rather than the global structural and coal quality estimates for these zones. 		
Dimensions	 The Stockton resource area covers approximately 22.9km², a roughly rectangular shape up to 3.5km wide (E-W), and 8km long (N-S). Within this area all seams are exposed in the operating mine, with in situ coal between 0m and 50m below the original ground surface. Coal thickness varies considerably over the deposit, from 28m (areas with structural thickening) down to <0.5m (areas with coal seam poorly developed). On average the remaining coal resource has an average thickness of 8-10m. 		
	• The M3 rider seam to the main M2 seams is on average 0.5m thick but can have local thicknesses of 3m.		
Estimation and modelling techniques	 Modelling has been undertaken using Maptek's Vulcan Version 7.5 and 8.2 software by a resource geologist experienced in its use, using a standardised set of validated automated scripts. 16,091 drillholes are utilised in modelling and resource estimation. All valid drilling data, mapping data, together with a number of structural interpretations are used as the source data for creating the coal seam surfaces (grids). Grids for the coal roof and floor (including seam splits) are developed over the entire CML. These 		
	 coal surfaces are modelled using a stacking algorithm with the coal roof of the predominant coal seam (M2) used as the reference surface. This process is repeated for six geological domains of the deposit to ensure that the coal seams are modelled accurately. The grids are created by using a triangulation algorithm resulting in a 10m x 10m grid. This methodology of creating grids is common practice for the estimation of coal deposits. Block model extends from 321500mE to 327010mE and 710500mN to 719510mN and elevation from 300mRL to 1100mRL. 		
	 A standardised block model schema has been used, with a standardised set of variables, with associated default values. The latest validated survey "original", "cut" and "as-built" surfaces and grids are used to create an empty block model, with 10m by 10m blocks with a minimum thickness of 0.5m (for coal seams). The parent block size (10m by 10m) is half the drill spacing to ensure the mineralisation is well represented by the blocks. The drilling database is used to create a set of 0.5m thick composites, which is then used to create to be a set of 0.5m. 		
	 estimate the coal qualities for the blocks within the coal seams. Multiple estimation runs are completed to ensure all blocks are populated. All coal blocks have been estimated using the inverse distance methodology, with a power of 2, for the standard set of coal qualities (ash, sulphur, swell, inherent moisture, volatile matter). 		

Criteria	Commentary
	Coal Quality Estimation parameters used during coal quality estimation are:
	 Search ranges used are 150x150x0.5m and 500x500x1m.
	 Samples used are a minimum of 2 and a maximum of 8 in the first search radius, and a
	minimum of 1 and a maximum of 5 in the second search radius.
	 A maximum of 2 samples from any one drillhole is allowed.
	 Block discretisation of 4,4,1 was applied.
	• Using the Vulcan "tetra unfolding" methodology, along the modelled coal seam surfaces.
	Lithology of non-coal overburden, underburden and interburden blocks, are estimated using a
	probabilistic method, using the drilinole database. Once lithologies have been estimated, the
	ash, sulphur, swell, inherent moisture, and volatile matter are estimated.
	\circ Inverse distance estimation, with a power of 2, is used. \circ Search ranges used are 60x60x1m and 200x200x1m
	\circ Samples used are a minimum of 1 and a maximum of 10
	 Block discretisation of 4.4.1 was applied
	 Using the Vulcan "tetra unfolding" methodology, along the modelled structural seam
	surfaces.
	• Where insufficient data drillhole data is available, then default CQ values are assigned to
	un-estimated blocks.
	• At each stage of the process (initial data points, new surfaces, and final block model) the new
	data is validated back to the previous model, to ensure consistency.
	• Standard Block model validation was completed using visual and numerical methods.
	No selective mining units were assumed in the estimate.
	• Part of the deposit has been previously underground mined. A detailed review of the
	underground mine plans and production records produced depletion factors for underground
	mining panels. These factors were used in the resource classification confidence and for
	depleting the resource tonnages.
	Underground coal fires related to the underground workings have had impact on the coal quality
	and ground conditions. A detailed review of these fires and ground conditions have also identified
	areas with poor coal seam structural integrity (pillar collapse) and or have had their qualities
	altered due to the presence of fire. The factors have also been used to deplete and coal tonnage
	and or coal quality for the deposit affected by the presence of fires and or pillar collapse.
Moisture	• All moisture values are reported on an air-dried basis, using air-dried ply results to estimated
	moisture. Inherent moisture is measured for all drillhole samples.
	Tonnages are estimated on a dry basis.
Cut-off	• A minimum seam thickness cut off for all modelled seams is 0.5m as this is what is currently
parameters	considered as recoverable using open cast methods.
	 A maximum ash cut-off of 25% has been applied to all coal seams except where seam continuity is required, which meaninghade interpole with greater than 05%. Ash
	is required, which may include intervals with greater than 25% Ash.
	 Coal with Ash <8% is considered bypass coal and does not require any further processing. Coal with Ash >8% needs to be processed through the company's Coal Handling and Processing.
	Plant (CHPP)
	 Coal tonnes are only reported from the M2 seam or its splits (no M3 and M1 tonnes are reported)
	 All resources blocks have been limited to be within the 2018 Whittle nit ontimisation revenue 2.0
	factor (RF) nit shell
Mining factors	This declaration reports on a long-term operating site
or	 Selected mining method/s chosen from long term experience of local conditions
assumptions	 A mined-out factor is assigned to each block based on the current site tonography, or if within a
	set of mined out/signed off areas
	 Geotechnical parameters for cut slope design were developed based on historical cut slope
	performance, slope back analysis and laboratory testing of material strength parameters. Slopes
	are designed to comply with a Factor of Safety that exceeds 1.2 with its related probability of
	failure and potential failure dimensions.
	 Minimum recoverable coal thickness is 0.5m. Final coal recovery percentages have been
	calculated using the degree of previous mining history, adjacent waste material expected

Criteria	Commentary		
	contamination, and expected mining losses.		
Metallurgical factors or assumptions	• Contaminated coals from mining and/or from underground workings are processed via the company's Coal Handling and Processing Plant (CHPP) since 2010. The CHPP removes the dilatant material and a small portion of coal to provide a more saleable product. The plants		
	performance has been routinely monitored since its inception.		
	• Although not included in the resource estimate, studies have been conducted on the properties		
	of the coal pertaining to compustion potential, Ash fusion temperatures and Hardgrove Grindability Index.		
	Small parcels of coal have been sent to customers for evaluation and test work.		
Environmental factors or assumptions	• There are a number of Resource Consents regarding land use, air, and water quality that must be strictly adhered to for the Stockton site however these are unlikely to impact on the Mineral Resource Estimate.		
	• There are a number of lithological units exposed during the mining process which generate acid metal drainage. The water run-off across site is monitored and lime dosing is used at strategic sites to correct the water acidity.		
	 Due to high rainfall over the mine site the high content of suspended solid material is a concern. 		
	to water quality. There is a series of drains and sumps that collect this 'dirty' water that allow for the settling of the suspended solids		
	 Mined out areas are rehabilitated using a comprehensive system, which makes use of recovered 		
	soil, recovered vegetation, bio-solids, and dried grass.		
Bulk density	• The relative density value is calculated using the available ash-density data (268 samples) to		
	define an ash-density curve.		
Classification	Non-coal units are assigned default density value based upon the lithology type. The recourse has been alreadily default density value based upon the lithology type.		
Classification	Ine resource has been classified into the interred/indicated/Measured status by analysing eight factors upon which the geological confidence is based		
	Presence of underground workings		
	 Coal seam dip. 		
	 Distance to nearest coal quality data. 		
	 Ratio of coal seam thickness to the number of coal seams. 		
	 Distance to reliable roof contact. 		
	 Coal seam thickness (where less than one metre). 		
	 Estimation passes need to estimate. 		
	• Number of informing drillholes used.		
	The Competent Person will review the results of the semi-automated resource classification process and will be manually adjusted where necessary and/or required.		
	 The input data is comprehensive in its coverage of the coal seams and does not miss-represent the in situ coal seams 		
	The results of the validation of the block model exhibit a good correlation of the input data to the		
	estimated grades.		
	• All resources are within the 2018 Whittle pit optimisation revenue 2.0 factor (RF) pit shell.		
	• The Competent Person has taken into account all relevant factors in undertaking this estimation and considers the estimate to be a true reflection of the current understanding of the deposit.		
Audits or	Definitive Feasibility Reports (PAG L5) for the Coal Handling and Processing Plant and Millerton		
reviews	Coal Resource have included external peer reviews of the geological databases and resource		
	estimate methodology. No significant issues were identified in reviews. The database and		
	geological resource model were also extensively peer reviewed internally by senior geologists and the Competent Person.		
	• Pre-Feasibility and Definitive Feasibility Reports for near deposits (Cypress and Mt William		
	North) have included external peer reviews of the geological database. No significant issues were identified in reviews.		
	Twin hole drilling programs have been undertaken to validate previous drillholes.		
	• During post mining reconciliation the drillhole ply results, and the associated estimated values,		
	are compared to the mined coal to ensure that the drilling programs have been sufficient to predict the qualities of the mined coal.		

Criteria	Commentary
	 A geostatistical study undertaken by Golder and Associates into drillhole spacing was undertaken in 2006, that suggested grade control drillhole spacing should be on 15m or 20m grid spacing where coal quality parameters and coal geometry vary significantly. A review of the Stockton resource modelling process was undertaken by Palaris in 2013 as part of a Solid Energy New Zealand wide review. The BTM acQuire database was last externally audited in 2008 by Advanced DataCare. Suggested actions were reviewed and actioned where necessary.
Discussion of relative accuracy/ confidence	 Based on the data available, the degree of accuracy of this statement is considered high for the Stockton deposit. The process for calculation has used: BTM Standards and procedures, BTM Resource and Reserve Guidelines and the 2012 JORC Code along with industry best practice where available to define the Resource estimates provided to confirm search estimation ranges and drillhole spacing for each resource classification. Regular mine area reconciliations are undertaken and show an acceptable correlation between mined coal and estimated coal.

Section 4 Estimation and Reporting of Coal Reserves

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	 The Coal Resource estimates used are the Coal Resource estimates undertaken by the Stockton resource geologist as outlined in Section 1-3. Coal Resources are inclusive of Coal Reserves. The Coal Reserve estimates are for a long-term operating site. For the purpose of Reserve calculations, the mine is split into regions which are Millerton, Rockies, No2 South, A Drive, Mt Augustus, and McCabe's. Drillholes are validated then coded to create a structural grid model using Vulcan™ software by BT Mining Limited. This structural model forms the framework that a 3D block model is created from by the site geologists. The model includes topography, seam structure and coal qualities used for in situ Coal Resource delineation. Coal quality values are estimated into the block model by BT Mining Limited. Coal Resources and Coal Reserves are derived from this model. The Company has robust and stable modelling processes modelling processes in place. Tonnages reported, model mining modifying factors including surface and historic underground mining extraction, loss and dilution, fire affected, plant yields and economics have been reviewed and reconciled against actual performance. The decrease in Coal Reserve tonnes due to mining depletion and the removal of the A18 Fines Stockpile coal tonnes after studies determined that it is not economically recoverable at this time. Other minor changes are as follows: Additional coal tonnes recovered but not modelled, primarily from Millerton where mining proceeded through faulted or fire effected area.
Site visits	 The Competent Person for this Coal Reserve Statement is Ian Harvey, a full-time employee of BT Mining Limited based at Stockton. The Competent Person has almost 20 years' experience working at Stockton in various roles, including resource modelling and mine planning, as well as coal quality management and mine/market planning.
Study status	 Stockton mine is an operating mine. Material Modifying Factors have been considered. The reported Coal Reserve is based on actual site performance, costs and mine plans that have been determined to be economically viable in the BT Mining cashflow analysis. No additional projects added in 2023 with Coal Reserves. A18 Coal Fines reclaim studies are ongoing and considered at PES level.
Cut-off parameters	 A maximum ash cut-off of 25% has been applied to all coal seams except where seam continuity is required, which may include intervals with greater than 25% ash. Coal with ash <8% is considered "bypass" coal and does not require any further processing.

Criteria	Commentary						
	Coal with ash >8% "wash" coal needs to be processed through the company's Coal Handling and Processing Plant (CHPP). The feed cut-off grade depends on the ash source, being either >8% and <35% if ash is in situ, or >8% and <50% ash if contaminated with non-coal material (e.g. ash introduced due to previous underground extraction). The minimum mineable seam thickness is 0.5m based on recovery by surface mining methods used at the site.						
Mining factors	• The mining method is conventional drill and blast, load and haul open pit mining operation. This						
or assumptions	utilises truck and excavator for waste movement, while coal is loaded using a combination of loaders and excavators with haulage to the run-of-mine (ROM) hopper CHPP, or stockpiles using dump trucks. The operations are supported by additional equipment including dozers, grader and watercarts. The selected mining method is based on long term experience of local conditions. Minimum recoverable in situ thickness is 0.5m.						
	 Coal Reserve tonnages have been estimated using a bulk density of coal determined by an ash and density relationship. The ash/density relationship was developed from a number of samples from all over the deposit and from different intervals within the seam. Density = (0.000001 * (ash ³)) - (0.00006 * (ash ²)) + (0.0095 * ash) + 1.2653 						
	 All coal qualities guoted are on an Air-Dried Basis (ADB). 						
	 Geotechnical parameters are based on geotechnical studies undertaken by the Stockton engineering geologists. Specific parameters are applied to each pit. Pit designs have been based on geotechnical constraints and parameters. The typical highwall configuration is a batter height of 15m with batter angles between 30°- 76° using 8.5m wide benches. A maximum 10% gradient and 23m wide running surface is being used for in pit ramps and roads. Pit limits have been updated based on pit optimisation studies with restrictions for current land and mineral access determined by mining permits and granted consent limits. Pit optimisations used current cost and revenue assumptions. The latest pit optimisation study was completed by Golder Associates (NZ) Limited in 2018. Grade control drill is undertaken as defined in Sections 1 to 3. Allowances for mining dilution and recovery has been applied to the block model. The mining loss, contamination and dilution is based on the lithology above the coal roof and below the coal floor as follows in metres for each 						
	mineable horizon:						
	I NICKNESS (M)						
	ROOT FIOOr Mudstone Lost: 0.10 0.05						
	Mudstone Contaminated0.050.10Mudstone Dilution:0.250.25Other Lost:0.050.05						
	Other Contaminated:0.100.10Other Dilution:0.050.05						
	 Additional recovery factors for Millerton and Rockies mining block areas include losses for historical underground extraction, fire effected coal, and where the overburden material has collapsed into the coal seam. 						
	 Approximately 58% of total Coal Reserve tonnes require washing to make a marketable product. Minimum mining widths are dependent on volumes to be excavated and the size of the fleet to be used. Typically for the bulk excavator and truck fleet this is approximately 30m. For the small excavators and trucks this is approximately 15m. 						
	 Current mining methods require the following infrastructure; haul roads, drainage, pumps, sumps and dam structures, lime dosing plants, coal stockpile areas, CHPP, coal load out and bins, aerial ropeway, train load out and bins, workshop, offices, and contractor facilities. Much of this infrastructure is in place with the main new infrastructure required being related to water management and access such as sumps, dams and water control as the mining progresses into 						

new areas.

Criteria	Commentary
Metallurgical factors or assumptions	 Bypass Coal is defined as coal recovered that is not contaminated by rock or other materials and which when mined, is a saleable product (ash <8%). Wash Coal is defined as coal that requires processing/washing prior to becoming a marketable product. The feed cut-off grade depends on the ash source, being either >8% and <35% if in situ ash, or >8% and <50% for coal contaminated with non-coal material. Approximately 58% of total Reserve coal tonnes require washing to make a marketable product. Stockton has a CHPP in operation to produce a marketable product. The CHPP has an online analyser for identifying coal that is out of specification. Additional samples are sent for petrographic analysis (Romax). The processes used are standard for the coal industry and so are well tested technologies. This has also been backed up by bulk samples being taken and tested for washability, yield and recovery factors. Historical plant performance was used to review these factors in late 2014 and are still considered applicable. Actual plant product yield and qualities were reviewed in July 2022 and minor changes incorporated in the model. A full reconciliation was not completed in 2021 and is recommended to be conducted annually in the second quarter in order to allow adequate time for model adjustments.
Environmental	 All mining approvals, consents, permits and licences to operate have been granted for Stockton Mine. These are CML37150, MP41810 and MP52937. Environmental planning and management are fully integrated with coal mining at Stockton and the mine has annual rehabilitation targets. Due to high rainfall over the mine site the high content of suspended solid material is a concern to water quality. Stockton is developing an area for mining which includes systems to divert clean surface water around the disturbed area and for collection and channelling of mining contaminated water from the work site into the mine's water treatment infrastructure. The mine waste rock has the potential to generate acid; therefore, mine water is treated by lime dosing prior to discharge into receiving environment. The mine has a Closure Plan that has been approved by regulatory authorities. Soil and vegetation, where practically accessible, are carefully lifted and taken to a holding area or immediately placed in an area (VDT methods) of the mine undergoing rehabilitation. Environmental impacts that have been identified can be mitigated to meet permitting requirements
Infrastructure	 Stockton is an operating site with existing infrastructure in place to support the operation. This includes a CHPP, ROM pads, water treatment plant, lime dosing plant, workshop, offices, access road, aerial ropeway, train load out, water treatment structures, weighbridge area, contractor's laydown yard, power station and explosives storage. Labour is primarily sourced from the nearby town of Westport. Accommodation for the labour source is off-site in the small nearby towns but primarily in Westport.
COSTS	 Stockton is an operating mine and the majority of required capital expenditure has already been spent. Some additional capital expenditure is required to maintain existing structures, mobile fleet replacement and to develop additional water infrastructure as required for future mining areas (e.g. Resource definition). Operating costs are reviewed annually. These are based on historical actuals and forecasting for the following financial year. Operating cost is made up of equipment costs, fuel consumption, construction, fixed costs, administration costs, environmental costs and transport costs. These include mining, processing, civils, administration, haulage, coal transport via road, aerial ropeway, rail freight and port storage and handling costs. The CHPP is owned by BT Mining and costs are based on the demand for wash product in the annual budget. Historical data has been used to calculate CHPP costs. Mine Rescue Levy, Licence and Inspection Levy, Energy Resources Levy, Crown Royalty, Coal Mining Licence fees, FME carbon and land rates are applied as per appropriate NZ legislation.

Criteria	Commentary						
Revenue factors	 Coal prices – Hard Coking Coal (HCC) price estimate used was based on BT Mining Limited supplied pricing, PricewaterhouseCoopers (short-term forecast), and extrapolated for the long- term based on publicly available forecasts. These costs were documented by BT Mining and were reviewed and applied by Golder for economic pit shell evaluation. 						
	 Foreign exchange rates, sourced from BT Mining, are based on consensus published short term rates, PricewaterhouseCoopers and other publicly available forecasts. Current rates assumed are NZ\$1.00 = US\$0.70. 						
	• All other prices derived from HCC based on agreed company ratios (generally SHCC 80%, SSCC 70% but can vary by mining area).						
	 High sulphur coal products > 4% adb are further discounted to 33% of the HCC benchmark estimate. 						
	 Price sensitivity to coal with sulphur > 4% was included in the 2018 pit optimisation analysis. Assuming no value for these tonnes in the model resulted in no significant change in the economic pit shell extents. 						
	• Thermal coal is uneconomic at the current sale price and excluded from the 2023 Coal Reserve tonnes. Thermal coal extracted as part of mining process is currently taking advantage of current elevated Thermal coal prices and being sold into the international markets.						
	Discount rate is reviewed annually based on an internal BT Mining real rate.						
Market assessment	• The supply and demand situation for coal is affected by a wide range of factors, and coal consumption changes with economic development and circumstances. BT Mining Limited has sales agreements in place with some existing customers. Established external forecast analysts have provided guidance to assess the long-term market and sales of coal.						
	 Stockton sells coal into several markets; the Coal Reserve quality in the Stockton pit has been decreasing over the life of mine as the Coal Reserve is depleted. Particularly lower in rank or higher in sulphur coal remaining have resulted in changes over time to coal market requirements. Currently 12.5% of the Coal reserves has a sulphur content > 4% and requires a blend partner 						
	 BT Mining Limited Marketing team is regularly in talks with new customers and investigate 						
Foonomio	potential new markets.						
Economic	 For the optimisation study carried out September 2021 the following inputs have been taken into consideration: mining, processing, civils, administration, haulage, aerial ropeway, rail, port costs and licences and levies as per appropriate NZ legislation. 						
	 Pit optimisation study developed a revenue factor (RF) with a range of 0.4 to 2.0 in 0.1 intervals. The incremental RFs allow for the generation of different pit shells, allowing different stages to be chosen rather than just mining the ultimate pit. RFs > 1 provide an indication of the passible. 						
	size of a pit with potential price increases and designate likely infrastructure or waste rock storage areas.						
	• Sensitivity analysis has been completed on commodity price variations which is the primary driver for the Stockton pits.						
	• The updated pit optimisation study carried out by Golder Associates (NZ) Limited in September 2021 for the Stockton pit area has been used to determine the current Coal Reserve block extents.						
	• The reported Coal Reserve is based on economic viability determined by BT Mining conducted cashflow analysis using actual site performance, costs, mine plans and BT's marketing studies for sales and pricing, and Golder Associates (NZ) Limited informed of the results.						
Social	BT Mining Limited currently holds the required permits for mining activities and landowner access						
	to mine the current Coal Reserves reported.						
	The Millerton and Plateau Protection Society (MAPPS) is an Agreement between BT Mining and						
	the residences of Millerton Township. In this agreement BT Mining has stated that they will not						
	mine within the MAPPS area but have also stated that it retains all the rights to undertake						
	activities covered under the Coal Mining Licence (CML) including coal mining.						
	 As a part of the resource consenting process and general site operations, regular communication and consultation has taken place with the local communities including the local lwi 						
Other	 All material legal agreements, marketing arrangements and government approvals are in place 						

Criteria	Commentary						
	and active for the existing operation.						
	• There are no currently identified material naturally occurring risks that could impact the project						
	or estimated Coal Reserves.						
Classification	Coal Reserves are based upon Resources classified as either Measured or Indicated from the Resource estimation and classification process						
	The prospect is an operating site and assessed at or above a Pre-Feasibility Study (PFS) level						
	The Coal Reserve classification results appropriately reflect the Competent Persons view of the						
	deposits						
	 1% of Probable Coal Reserves are derived from Measured Coal Resources 						
	 Coal toppes with >4% sulphur require blending with low sulphur coals assumed from the Bathurst 						
	Resources Limited (BRL parent company) owned projects or other unidentified external sources						
	to make a marketable product and have been classified as Probable.						
Audits or	 In 2008 a study was undertaken to assess coal washability and based on the results the current. 						
reviews	CHPP constructed and remains in use at the site						
	 In 2009 a Definitive Feasibility Study was undertaken for the Millerton Region 						
	 Palaris undertook a review of the Stockton reserve model in 2013 and 2016 as part of a Vender 						
	Due Diligence process for the previous owner Solid Energy New Zealand Limited.						
	 Internal review Pit Optimisation Study has been undertaken in 2014. 						
	Golder Associates (NZ) Limited has reviewed the economic pit limits as part of Pit Optimisation						
	studies completed in June 2015 and July 2018 and September 2021.						
	The mining and CHPP performance are reconciled annually.						
Discussion of	Coal Reserves have been reported in accordance with the guidelines of the 2012 edition of the						
relative	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves,						
accuracy/	the basis of the categorisation reflects the accuracy of the coal reserve tonnes.						
confidence	• The accuracy of the Coal Reserve estimate is dependent on the ability to sell the coal at the						
	estimated prices and the site operating costs. Site operating costs are based on historic actual						
	costs, the discount rates and the forecast long-term coal sale price have been reviewed internally						
	by BT Mining and as part of a pit optimisation study by Golder Associates (NZ) Limited in 2021.						
	The Modifying factors applied to the reserve model are global estimates of tonnes and grade.						
	• Accuracy and confidence of modifying factors are generally consistent with the current operation.						
	Modifying factors applied to the Stockton Coal Reserve are mining losses, dilution and						
	contamination to both roof and floor of the coal seam. The amount of losses, dilution and						
	contamination are dependent on the lithology of the rock in the roof and floor. Additional						
	modifying factors are applied for previous underground (UG) mined area (e.g. Millerton area).						
	• For the UG areas the accuracy of factors for mining losses, dilution and contamination is reflected						
	in the Coal Reserve classification of Probable. The other modifying factor that affects the						
	Willerton block is presence of historic and active UG fires. A fire affected surface is estimated						
	nom difficulte data and applied in the block model. The accuracy of this surface is reflected in						
	improved resolution of the surface area in 2019						
	Marketable coal tennes are reported on the basic of in ground moisture only further data and						
	• Marketable coal tornes are reported on the basis of in-ground moisture only, further data and assessment is recommended in order to report total product moisture.						
	 There are an estimated 0.7 million tonnes of coal product with a subbur content 						
	in the Stockton Coal Reserve (12.5% of Coal Reserve) that is recovered during the mining						
	process and requires blending to make a marketable product. A high sulphur product (Granity)						
	has been developed that contains a high proportion of high sulphur coal. This product has been						
	accepted following a customer trial during FY20. Other existing customers have contracted to						
	purchase this coal product during the FY22, providing further confidence of market support. High						
	sulphur tonnes (>4%) are classified as a Probable Coal Reserve.						

Appendix A:







Figure 2: Map showing Land rights across the mine site



Figure 3: Map showing Mining Permit across mine site



Figure 4: Geological QMap across the mine site



Figure 5: Map showing drillhole type/distribution



Figure 6: Map of underground workings across mine area



Figure 7: Map of Resource Classification



Figure 8: Map showing M2 Ash distribution



Figure 9: Map showing M2 sulphur distribution



Figure 10: Map showing M2 Crucible Swell Number (CSN) distribution



Figure 11: Map showing M2 RO(MAX) distribution



Figure 12: Map showing M2 floor contours distribution



Figure 13: Map showing M2 apparent seam thickness





JORC Code, 2012 Edition – Table 1 Report for Upper Waimangaroa 2023

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	 Diamond Core (DC) drilling sampling for coal quality analysis took place using PQ (85mm) or HQ (64mm) coring methods for coal seams. The entire core is retained for analysis. Resource modelling has been undertaken over four individual areas of interest (Figure 2): Mt. William North. Cypress. Mt. William South. Upper Waimangaroa South. Individual resource model reports have been compiled for the individual areas of interest. DC sampling is carried out under Stockton specific protocols and QAQC procedures. Composited samples are created at the laboratory from individual plies that are thickness weighted. These composited samples are compiled for additional coal property testwork.
	 Trench lithology and sampling data collection has been collected in a similar manner to drill core
	 (i.e. 0.5m plies) and have had the same analysis completed. Reverse Circulation (RC) chip samples are collected via a cyclone attached to a reverse circulation percussion drill rig. Sampling is primarily undertaken on 0.5m intervals through the coal seam (~6kg), and indicative 1m rock samples (~70g). The entire coal sample is retained for analysis.
	 The quality of drill core, RC chip samples and trench samples are continuously monitored and collected by geologists during drilling.
Drilling techniques	 Drilling has been undertaken using the following techniques: Diamond Core (triple tube, PQ core). Open hole (Tungsten drag bit, PQ size). Reverse Circulation (PQ sized face sampling bit). Blade bit. Some drill collars have had open hole pre-collars. The bulk of the drillholes have been drilled vertically due to the shallow dipping morphology of the deposit and due to its close proximity to the surface. No core has been orientated.
Drill sample	Diamond Core
recovery	 Standard industry techniques are employed for recovering drilled core samples from drillholes. Core is obtained by HQ (63mm) diameter coring techniques, using triple tube operations, providing good core recovery, averaging >80% over the entire drillhole (inclusive of non-coal lithologies). On average recovery of coal is 90%.
	 HQ core diameter is considered to provide a sample of sufficient volume to be representative of the in situ material and provides adequate sample mass to undertake the variety of raw coal tests together with composited sample analysis when required.
	 In poor ground conditions HQ sized rods, and therefore core were used to ensure that the drillhole was completed without affecting the integrity of the drill core and or loss of drilling equipment.
	 Downhole geophysics has been undertaken on most of the diamond core holes. A combination of geophysical tools, including Density, Natural Gamma, Caliper, Sonic, Dipmeter, Acoustic Scanner, and Verticality have been run down holes. All tools are calibrated on a regular and systematic basis. All geophysical logging work has been conducted by a contractor (currently Weatherford). Sample interval and recovery recorded in the field by drillers is validated and adjusted if required using geophysics during core logging and sampling. When drillholes are geophysically logged, the geophysical logs are correlated/validated against the core to determine core/chip recovery, while ensuring drill depths recorded in the field by the

Criteria	Commentary						
	 Core photography is undertaken on all diamond core. Reverse Circulation Drilling Chips RC chip samples from the reverse circulation percussion drillholes is recovered directly from the rods using a cyclone system. The entire sample interval is retained for coal quality analysis. Sample interval of 0.5m produces a sample between 5 - 7kg. For non-coal lithologies an indicative sample (~70g) from each meter is retained for geological logging. RC generated samples with poor recovery (<3kg) are not submitted to the laboratory for analysis. Should there be poor recovery for the entire coal seam the hole is re-drilled if there is no specific reason for the poor recovery (e.g. presence of underground workings within the coal seam). The Competent Person is satisfied that the RC holes have taken a sufficiently representative sample of the mineralisation and minimal loss of fines has occurred. 						
Logging	 All diamond core samples are checked, measured, marked up and finally photographed before logged in a high level of detail. All diamond core samples are geologically logged in a high level of detail down to centimetre scale. Intervals are logged for lithology, colour, weathering type, stratigraphy, texture, hardness, RQD and defects. Logging is conducted using a defined set of codes. Every discrepancy between the measured length of the core and the driller's length marked on the core blocks is investigated. Discrepancies are resolved by geologists prior to sampling with 						
	 All percussion drillholes chip samples are geologically logged, with 1m samples used to define the non-coal lithologies (overburden), and 0.5m samples for coal and other non-coal lithologies surrounding or contained within coal seam partings. The geological logs are validated against laboratory results. The entire lengths of RC drillholes are logged. Where no sample was returned due to voids/cavities it is recorded as such. Drillholes that have been geophysically logged with a suite of tools (as described above) are analysed extensively to validate, confirm and correct coal seam depths. Validation and, if required, correction of the geological logs against geophysics is undertaken to ensure accuracy and consistency. Verticality, caliper, density and natural gamma tools are checked regularly with standard calibration assemblies. The density calibrations are performed routinely, with blocks of known densities (aluminum and/or water). 						
Sub-sampling techniques and sample preparation	 No splitting of core is undertaken in the field or during sampling. Sample selection is determined in-house and is documented in a core sampling procedure. Clean coal core has been sampled to a maximum of 0.5m plies, and adjusted for core loss and lithological variations. Associated high ash coal intervals and partings were sampled separately to assess potential dilution effects where they are <0.5m thick. Intervals with non-coal material (>50% ash) are excluded from sampling. Trench samples follow the same procedure as described for core samples. Samples are placed into pre-labeled plastic bags to ensure proper Chain of Custody, and then transported by BT Mining Limited personnel to the laboratory for testing. The laboratory continues with the Chain of Custody requirements. Sample preparation is undertaken according to Industry Standards. A laboratory generated repeat sample is submitted with every 20th sample submitted to the laboratory. This sample is provided a new sample ID with no reference to the original sample ID. The results of these repeat samples are reviewed monthly and any discrepancies investigated. RC Chips No splitting of coal interval chips is undertaken. Non-coal intervals are sub sampled directly from the cyclone. Sample selection is determined in-house and is documented in a core sampling procedure. Associated high ash coal intervals and partings are sampled separately to assess potential dilution effects where they are adjacent to coal seams. Intervals with non-coal material (>50% ash) are interval chips are negative and partings are sampled separately to assess potential dilution effects where they are adjacent to coal seams. Intervals with non-coal material (>50% ash) are analyzed. 						

Criteria	Commentary						
	Samples are placed into pre-labelled plastic bags to ensure proper Chain of Custody, and then transported by Stockton personnel to the laboratory for analysis. The laboratory continues with the Chain of Custody requirements. Sample preparation is undertaken according to Industry Standards. A laboratory generated repeat sample is submitted with every 20 th sample submitted to the laboratory. Before submission this repeat sample is provided a new unique sample ID with no reference to the original sample ID. The results of these repeat samples are reviewed monthly and any discrepancies investigation.						
Quality of assay data and laboratory tests	 SGS in Ngakawau and CRL (ACIRL Australia and Newman Energy subcontracted for specific tests) laboratories are used to undertake physical and chemical testing and use Industry Standards for all coal tests and systematic QA/QC procedures for all work. Both laboratories hold accreditation by International Accreditation New Zealand (IANZ). The processes employed are considered to be appropriate for coal sample analysis. Results are reviewed in-house to ensure the accuracy of the data by a geologist and or a senior geologist. The laboratory has been inspected by the Company's personnel. Tests include but are not limited to: Chemical Analysis Proximate analysis (ASTM D5142-2004 (modified)) 						
	 Proximate analysis (ASTM D5142-2004 (modified)) Sulphur (ASTM D4239-04A) Total Moisture (ISO 589) Ultimate Analysis Carbon (AL038-in house) Hydrogen (ASTM D3176-09) Nitrogen (ASTM D3176-09 (by difference)) Oxygen (ASTM D3176-09) Sulphur (ASTM D3176-09) Forms of Sulphur (AS 1038 Part 11) Chlorine (ISO 587) Ash composition (X-Ray spectrometry (Spectrachem)) Ash fusion temperature (ISO 540:1995(E)) Trace Elements Calorific Value (ISO 1928-1995) Rheological and Physical Analysis Gieseler Fluidity (ASTM D2639-90) Dilatational (Audibert-Arnu) (ISO 349:1975) Free Swelling Index (ISO 501:2003(E) D720-91(1999)) Hardgrove Grindability Index (ISO 5074, ASTM D409-02) Relative Density (AS 10382111-1994) 						
	 Maceral Analysis (c/- Newman Technologies), Vitrinite Reflectance (ASTM D2798-99) Other Tests Washability testing as requested (AS 41561 using float-sink methods) (also used Boner gig shaker table process). 5% of all SGS analysed samples from 2010 have been sent to CRL for re-analysis, and then subsequently re-tested at SGS. The result of these repeats are analysed by the database geologist and the resource geologist, on a monthly basis. Additionally 5% of all SGS analysed samples are retested by SGS, as part of their in-house QAQC process. These repeat test results 						
Verification of sampling and assaying	 are generally within a 5% of their original results. Results outside of set tolerances are investigated. Results are reviewed on a regular basis by the project geologist. Most holes are geophysically logged, and verification of seam contacts are made through analysis of the geophysics. Assessment of coal intersections are undertaken by a geologist. Geophysics allows confirmation of the presence (or absence) of coal seams, accurate determination of contacts to coal seams, density measurements are used to guide sampling and 						
	identify high ash bands and or seam partings.						

Criteria	Commentary						
	 Geophysical logs (dual density and gamma) are analysed extensively and used to validate and, if required, correct geological and sample interval logs to ensure accuracy and consistency. Coal ply results are provided by the laboratory and reviewed internally. No adjustments or calibrations are made to any coal quality data. In instances where results are significantly different from what was observed in geophysical logs or outside of local or regional ranges defined by previous testing, sample results are retested. Since 2006 all coal quality data has been directly submitted and stored in electronic format using acQuire SQL database software. Historical data has been validated and entered into the acQuire SQL database, from the original paper logs. These geological and geophysical paper logs are housed in the fire proof library in Westport. Historical data was transferred and validated against the current logging codes to ensure the data was valid. A limited number of twin holes have been drilled, and returned acceptable duplicates of the original holes. The Competent Person has inspected the sampling processes and inspected the laboratory. 						
Location of data points	 Upper Waimangaroa data is surveyed in Buller 1949 grid coordinate system in New Zealand with mean sea level datum (MSL). However the Geode correction for elevation is not undertaken due to the elevation of the mine-site. All on-site survey data used in the resource estimation does not have the Geode correction as well. All drillholes post 1998 are surveyed using real time kinematic GPS technology and are located within +/- 20mm vertically and +/- 10mm horizontal. Older drillhole collars were surveyed using conventional methods. Historical underground workings plans are based off old hand drawn plans that have been georectified (in 2D only) by converting from cadastral links to the Buller 1949 geodetic grid. Topographic surfaces consists of triangulations constructed from a combination of airborne LiDAR (accurate to within +/- 0.2m) collected for the whole of the Upper Waimangaroa area in June 2013. Drillholes with down-hole geophysics are surveyed for deviation with Weatherford verticality tool 						
	$(+/-15^{\circ} \text{ azimuth and }+/-0.5^{\circ} \text{ inclination}).$						
Data spacing and distribution	 Exploration drillholes are variably spaced (<100m to 1,500m) depending on target seam depth, geological structure, topographic constraints, down-hole conditions due to underground workings, and the location of other drillholes. RC drillholes were spaced 40-80m apart to define a weathering profile. No sample compositing is undertaken prior to initial laboratory ply analysis. Should detailed coal analysis be required, compositing is undertaken at the laboratory on a length weighted basis. This drill spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate to support the resource classification and is suitable for this style of deposit. Further drilling will be required to upgrade resource classification as part of long term development plans for the greater Stockton Plateau. 						
Orientation of	Majority of holes are drilled vertically, due to near horizontal coal seams.						
relation to geological structure	 A small number of exploration holes have been inclined. The purpose of these holes were to define significant geological structures and/or for geotechnical purposes and not for coal seam geometry and quality. No drilling orientation and sampling bias has been recognised at this time and is not considered to have introduced a sampling bias. 						
Sample security	 RC chip samples are collected in uniquely numbered pre-labelled plastic bags. Three to five samples are then placed in a large plastic bag for delivery to the laboratory. Core and trench samples are placed in uniquely numbered pre-labelled plastic bags. Three to five samples are then placed in a large plastic bag for delivery to the laboratory. Prior to submission to the laboratory, a standarised dispatch form is generated for each drillhole, within the acQuire SQL database software, which delineates the set of analysis to be undertaken and the logged sample numbers. Once samples and dispatch form are completed, the sample bags are validated and 						

Criteria	Commentary
	 subsequently delivered to the secure laboratory sample receiving area by a staff member. Once received at the laboratory, the consignment of samples is receipted against the sample dispatch documents. Any additional analysis is requested as required by the geological services superintendent or resource geologist.
	 Sample residues are stored at the laboratory pending results and any possible repeat requests. Sample security is not considered a significant risk to the project.
Audits or reviews	 Integrity of all data (drillhole, geological, survey, geophysical and CQ) is reviewed by the resource geologist before being used to model either structure or qualities. Periodic internal reviews are conducted, to verify that both core and chips are logged in a consistent manner. These reviews are done either by a senior geologist or by the resource geologist. The acQuire database was last externally audited in 2008 by Advanced DataCare. Suggested actions were reviewed and actioned where necessary. The acQuire database is considered to be of sufficient quality to carry out resource estimation.
	 Resource models have been externally reviewed by Palaris as part of Solid Energy's Vendor Due Diligence in April 2016.

Section	2	Reporting	of	Exploration	Results

Criteria	Commentary				
<i>Mineral tenement and land tenure status</i>	Upper Waimangaroa MP41515 is a Coal Mining Permit which is due to expire on 11 November 2038.				
	 BT Mining Ltd has sole ownership of the Cypress operation and Upper Waimangaroa area. BT Mining is a joint-venture between Bathurst Resources Limited (65%) and Talley's Energy Limited (35%). 				
	• On 1 September 2017 BT Mining took control of Solid Energy assets including two operating mines Rotowaro and Maramarua in the Waikato region of the North Island, and the Stockton mine on the West Coast of the South Island.				
	 All operations at Cypress mine are currently undertaken within the Mining Permit boundaries. BT Mining Ltd does not own any land within the Upper Waimangaroa South resource. The land is owned by the Crown and administered by LINZ. BT mining Limited has a land access agreements with the Crown to access land. The agreements expire at a date after the life of CMP 41515, to be determined by the Crown, to provide sufficient time for rehabilitation. The 				
	permit expires in 2038.				
Exploration done by other parties	 Royalites and Levies are applied to per ton of coal produced. Within the MP41515, the previous owner (Solid Energy) has undertaken all exploration on the tenement since 1987. However, there have been earlier periods of work that have contributed to the understanding of this Resource. These programmes include early drillholes back to the late 1800s through into the 1900s, with New Zealand Coal Resources Survey preforming additional 				
	drilling in the 1980s.				
	 Between 1927-47 28 drillholes were drilled by Westport Coal Company. In 1952-53 a further nine drillholes were drilled in the northwest area by the Mines Department. In 1976-77, 14 drillholes were drilled by the Ministry of Works. 				
	• Three phases of drilling were completed by New Zealand Coal Resources Survey between 1982 – 1985.				
	State Coal Mines drilled 48 holes between 1985 - 1987.				
	Solid Energy commenced further drilling from 1997 – 2012.				
Geology	 Coal resources on the Stockton Plateau are restricted to the Middle to Late Eocene aged Brunner Coal Measures (BCM). This unconformibly overlies the Ordovician aged Greenland Group greywacke's and argillites, which has been extensively intruded by Cretaceous granites and porphyry (Berlins Quartz Porphyry). Due to the stratigraphic nature of coal measures, the coal 				
Criteria	Commentary				
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	 seams generally lie in a horizontal or sub-horizontal plane. The resource has a dip to the NE at the northern end of the deposit and to the east along the western margin. Folding and faulting through the coal seams can create localised changes in dips up to 80°. The Mangatini coal seams are the main coal seams of the Upper Waimangaroa Deposit. The seams have been given the abbreviation M. There are the three seams M1, M2, and the M3. The M1 and M2 seams are the predominant seams over the deposit. Seam splitting is common across the deposit and can lead to correlation complications. No distinct marker horizons are present between the seam. Correlations are based on detailed cross sections completed across the deposit. The M1 and M2 seams are the dominant seams targeted for mining and can vary in thickness. The M1 and M2 seam overlies the M1 seam. The M3 is a rider seam to the M2. The M3 seam is considered for resource classification in the Cypress consented area where it exceeds the minimal mining cut-off of 0.5m. The M3 seam is characterised by having high sulphur (>4%) and is generally poorly developed. 				
Drillhole	• No exploration results are reported. Comments relating to drillhole information can be found in				
Information	Section 1.				
	 The exclusion of this information from this report is considered not to be material to the understanding of the report. 				
Data	• The maximum ash cut-off for building the Upper Wiamangaroa structure models was set at 25%.				
aggregation	Resources have been reported with an ash cut-off of 25%.				
	 Seams have been sampled on a ply-by-ply basis with ply boundaries determined by reconciliation against down hole geophysics 				
Relationship	 All exploration drillholes have been drilled vertically and the coal seams are generally gently 				
between dipping. Therefore the reported seam intercept thickness is representative of th					
widths and	thickness.				
<i>intercept</i> <i>lengths</i> • Dip meter and deviation plots are available for some holes. For those without th assumed that a vertical orientation is achieved and, as most coal intersections and					
	100m in depth, any deviation from vertical would produce only a very minor effect on the reported depth to coal and coal thickness.				
Diagrams	depth to coal and coal thickness.				
Diagrains	 Diagrams can be round in the Appendix A for each of the following. Constitution map 				
	 Resource modelling area 				
	 Geological QMap 				
	 Schematic diagram illustrating coal seam naming convention 				
	 Map showing drillhole type/distribution Map of underground workings 				
	 Map of underground workings Map of Resource Classification 				
	 Map showing floor contours distribution 				
	 Maps showing M1/M2 Coal thickness isopachs 				
	 Maps showing M1/ M2 Ash distribution Maps showing M1/ M2 Substantiation 				
	 Maps showing M1/M2 Sulphur distribution Map showing M1/M2 Volatile Matter distribution 				
	 Map showing M2 ROMAX distribution 				
	 Upper Waimangaroa Reserve Pit Shells 				
Balanced	• No exploration results are reported. This avoids any issues with unbalanced or biased reporting.				
reporting	• The Competent Person does not believe that the exclusion of this comprehensive exploration				
	data within this report detracts from the understanding of this report or the level of information				
Other	 Historically a number utilisation and specialist marketing testing has been undertaken 				
substantive	• The different stratigraphic units and rock defects have been assigned various strength				
exploration	parameters based on historic laboratory test data (UCS, shear box and ring shears), empirical				
Jala	classifications (RMR, GSI and Hoek Brown). Downhole in situ geophysical measurements h				
	been undertaken to compare the strength variability with actual laboratory test data.				
Further work	• Additional exploration and resource development drilling has been proposed to better define geological structures, seam structure, thickness and coal quality of the deposit.				

Section 3 Estimation and Reporting of Coal Resources

Criteria	Commentary				
Database integrity	 All GPS sourced and validated survey data recorded in the field is electronically transferred into the master BT Mining (BTM) acQuire SQL database. All drill core logging data is digitally entered directly into the acQuire SQL database, with in-built enforced data validation rules. Drill chip geological logging data is manually entered into the acQuire SQL database, with in-built enforced data validation rules. Drill chip geological logging data is entered and stored in a consistent and accurate manner by using dropdown menus of standard logging codes to prompt and constrain inputs. The database highlights out of range coal quality values, duplicate records/intervals, prevents overlapping intervals or depths that extend beyond total drillhole depth. All changes to the database are tracked and archived. Data correction and validation checks are undertaken internally as defined by the Data Validation Standard before the data is used for modeling purposes. Once all validation is completed all drillhole data is signed off by both the responsible geologist, and the resource geologist. On completion of the data sign-off process the data is locked in acQuire and cannot be adjusted unless requested by the site geologist. Data validation checks are run routinely by the site geologist. The acQuire database was last externally audited in 2008 by Advanced DataCare. Suggested actions were reviewed and actioned where percessary. 				
	actions were reviewed and actioned where necessary.				
Site visits	 Competent Person, Mark Lionnet, has a full time role with Bathurst Resource Limited as the Export Project Manager with a high level of interaction with the Stockton geologist. The Competent Person has worked for five years at Stockton and has extensive knowledge of the project area. Regular visits have been undertaken by the Competent Person. 				
Geological	• There is sufficient confidence in interpretation of geological stratigraphy, structure and seam				
interpretation	 correlation/continuity though it is variable across the Upper Waimangaroa area. The data used in the geological interpretation included field mapping, drillhole data, core logging data, geophysical logs, sampling, coal quality laboratory testing and structural interpretations. Residual variability exists concerning geological structure along/within the major fault zones, resulting in a lower level of resource confidence. This variability will influence the local estimates rather than the global structural and coal quality estimates for these zones. 				
Dimensions	• The Upper Waimagaroa resource area covers approximately 4km ² , a roughly rectangular shape				
	 up to 2km wide (ESE-WNW), and 10km long (NNE-SSW). Within this area all seams are exposed at outcrop along the western margin of the MP. With the bulk of the in situ coal between 0 and 150m below the original ground surface. Coal thickness varies considerably over the deposit, from over 20m (areas with structural thickening) down to <3m (areas with coal seam poorly developed). On average the cumulative (M1 and M2) coal resource has an average thickness of 8m. The M3 seam is on average 0.5m thick. 				
Estimation	• Modelling has been undertaken using Maptek's Vulcan Version 9.1 software by resource				
and modelling techniques	 geologists experienced in its use, using a standarised set of validated scripts and the structural modeling module integrated into the software package. Resource models have been produced across four prospective areas: Mt. William North. Cypress. Mt. William South. Upper Wiamangaroa South. Mt William North is based on a resource model utilising a combination of 111 drillholes, reverse circulation and trench intersections. 593 drillholes and trenches are utilised in modelling and resource estimation for the Cypress model. 				
	• The Upper Waimangaroa model has utilised 192 exploration drillholes and 24 trench				

Critoria	Commontary				
Griteria					
Criteria	 Commentary intersections. Mt. William South has been interpreted using 23 exploration drillholes. All valid drilling data, mapping data, together with a number of structural interpretations are used as the source data for creating the coal seam surfaces (grids). Grids for the coal roof and floor (including seam splits) are developed over the entire MP. These coal surfaces are modeled using a stacking algorithm with the coal roof of the predominant coal seam (M1 and or M2) used as the reference surface. This process is repeated for six geological domains of the deposit to ensure that the coal seams are modelled accurately. The major fault blocks each have separate interpretation data points, to guide interpretation process, with a hard data boundary with the surrounding fault blocks. The structural grids are created by using a triangulation algorithm. Grid sizes vary across the four models but are dependent on data support. The methodology of creating structural grids is common practice for the estimation of coal deposits. Fault blocks have been modelled separately, and then appended together along three-dimensional fault surfaces. Block model extends vary depending on modelling extents and can overlap. A standarised block model schema has been used, with a standised set of variables, with associated default values. The latest validated survey "original" topo surfaces and structural grids are used to create an 				
	empty block model, with 20m by 20m blocks with a minimum thickness of 0.5m (for coal seams). The parent block size is approximately one fifth the average drill spacing to ensure the mineralisation is well represented by the blocks. For Mt. William North a standarised block model was created, with a standised set of variables, with associated default values that has been used for the nearby Stockton and Cypress deposits. The topography surface and grids surfaceswere used to flag blocks within the model. The seam blocks are 10m (x) by 10m (y) by 0.5m (z) blocks with a minimum thickness of 0.5m (for coal seams).				
	• The drilling database is used to create a set of 0.5m thick composites from the assay results, which is then used to estimate the coal qualities for the blocks within the coal seams. Multiple estimation runs are completed to ensure all blocks are populated.				
	 All coal blocks have been estimated using the inverse distance methodology, with a power of 2, for the standard set of coal qualities (ash, sulphur, swell, inherent moisture, volatile matter). Coal Quality Estimation parameters used during coal quality estimation have been standardised between standardised 				
	 between models: Search ranges used are 250 x 250 x 0.5m, 500 x 500 x 0.5m, 1000 x 1000 x 0.5m. 2000 x 2000 x 0.5m, 4000 x 4000 x 0.5m. Samples used are a minimum of 2 and a maximum of 5. A maximum of 2 samples from any one drillhole is allowed. 				
	 Block discretisation of 4,4,1 was applied. Using the Vulcan "tetra unfolding" methodology, along the modelled coal seam surfaces. At each stage of the process (initial data points, new surfaces, and final block model) the new data is validated back to the previous model, to ensure consistency. Standard Block model validation was completed using visual and numerical methods. No selective mining units were assumed in the estimate. 				
Moisture	 All moisture values are reported on an air-dried basis, using air-dried ply results to estimated moisture. Inherent moisture is measured for all drillholes samples. Tonnages are estimated on an air-dried dry basis. 				
Cut-off parameters	 A minimum seam thickness cut-off for all modelled seams is 0.50m. As this is what is currently considered as recoverable using open cast methods. A maximum ash cut-off of 25% has been applied to all coal seams except where seam continuity is required, which may include intervals with greater than 25% ash. Coal with ash <8% is considered "bypass" coal and does not require any further processing. Coal with ash >8% needs to be processed through the company's Coal Handling and Processing Plant (CHPP). Coal tenpos are only reported from the M1 and M2 seams and their respective online only and their respective online. 				
	tonnes are reported).				

Criteria	Commentary			
	• All resources blocks are reported within the 2019 Whittle pit optimisation 1.2 revenue factor (RF) pit shell.			
Mining factors or	Selected mining method chosen from long term experience of local conditions at nearby Cypress and Stockton mines.			
assumptions	 Geotechnical parameters for cut slope design were developed based on historical cut slope performance, slope back analysis and laboratory testing of material strength parameters. Slopes are designed to comply with a Factor of Safety that exceeds 1.2 with its related probability of failure and potential failure dimensions. Minimum recoverable coal thickness is 0.5m, with the expectation to extract 100% of the in situ coal 			
Metallurgical factors or assumptions	 Contaminated coal from mining will be processed via the company's Coal Handling and Processing Plant (CHPP). The CHPP removes the dilutant material and a small portion of coal to provide a more saleable product. The plants performance has been routinely monitored since its inception. 			
	 Although not included in the resource estimate, studies have been conducted on the properties of the coal pertaining to combustion potential, ash fusion temperatures and Hardgrove Grindability Index. Small parcels of coal have been sent to customers for evaluation and testwork. 			
Environmen-	Cypress and Mt. William North are fully consented			
tal factors or assumptions	 Currently no Resource Consents exist for the southern portion of the Upper Waimangaroa deposit. 			
	• A number of lithological units will be exposed during the mining process which will likely generate acid metal drainage. This will require engineering of water containment and treatment.			
Bulk density	 The relative density value is calculated using the available ash-density data (248 samples define an ash-density curve. 			
	Non-coal units are assigned default density value based upon the lithology type.			
Classification	 The resource has been classified into the Inferred/Indicated/Measured status by anaylsing three factors upon which the geological confidence is based: Number of informing drillholes used. 			
	 Proximity to major faults. Proximity to sub crop position. 			
	• The Competent Person has reviewed the results of the resource classification process and made adjustments where necessary and or required.			
	• The input data is comprehensive in its coverage of the coal seams and does not miss-represent the in situ coal seams.			
	• The results of the validation of the block model exhibit a good correlation of the input data to the estimated grades			
	 All resources are within the 2022 Whittle pit optimisation 1.2 revenue factor (RF) pit shell. The Competent Person has taken into account all relevant factors in undertaking this estimation and considers the estimate to be a true reflection of the current understanding of the deposit. 			
Audits or	• Regular internal reviews of the resource modelling process have been undertaken internally by			
reviews	the Competent Person; all issues raised have been addressed.			
	• Palaris completed an external review of this estimation in May 2016 as part of Solid Energy's			
	Vendor Due Diligence process. No substantial issues were raised. No further estimation has			
Discussion of	Based on the data available, the degree of accuracy of this statement is considered high for the			
relative accuracy/ confidence	Upper Waimangaroa deposit. The process for calculation has used: Standards, Guidelines and the JORC Code along with industry best practice where available to define the Resource estimates provided to confirm search estimation ranges and drillhole spacing for each resource classification.			

Section 4 Estimation and Reporting of Coal Reserves

Criteria	Commentary				
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	 The Mineral Resource estimates are those undertaken by Stockton Geology Team employed by BT Mining Limited at the Cypress Mine located within the Upper Waimangaroa Mining Permit area (MP41515) as outlined in Section 1-3. Coal Resources are inclusive of Coal Reserves. The Coal Reserve estimates are for a long-term operating site. Drillholes are validated then coded to create a structural grid model using Vulcan software by BT Mining Limited. This structural model forms the framework that a 3D block model is created from by the site geologists. The resource block model includes topography, seam structure and coal qualities used for in situ Coal Resource delineation. BT Mining Limited has a robust and stable modelling process in place. Tonnages reported, model mining modifying factors including surface mining extraction, loss and dilution, plant yields and economics have been reviewed and reconciled against actual performance. An overall decrease in the previously reported run of mine Coal Reserves is attributed to an update to the Pit Designs taking to account new geotechnical constraints. Also model depletion due to mining. 				
Site visits	 The Competent Person for this Coal Reserve Statement is Ian Harvey, a full-time employee of BT Mining Limited based at Stockton. The Competent Person has almost 20 years' experience working at Stockton in various roles, including resource modelling and mine planning, as well as coal quality management and 				
	mine/market planning.				
Study status Cut-off parameters	 Cypress mine is an operating mine. Material Modifying Factors have been considered. The reportable Coal Reserve is based on actual site performance and costs that have been determined to be economically viable in a cashflow analysis conducted by BT Mining. There are other Coal Resources under evaluation in the MP41515 area; however these studies are at a scoping or preliminary assessment level and therefore been excluded from the Coal Reserves. A maximum ash cut-off of 25% has been applied to all coal seams except where seam continuity is required, which may include intervals with greater than 25% ash. Coal with ash <8% is considered "bypass" coal and does not require any further processing. 				
	 Coal with ash >8% "wash" coal needs to be processed through the company's Coal Handling and Processing Plant (CHPP). The CHPP feed cut-off grade is <35% ash. The minimum mineable seam thickness is 0.5 m based on recovery by surface mining methods used at the site. 				
Mining footoro	Coal Reserves are only reported from the M2 and M3 coal seam horizons. The minimum article accounting of drill and black lead and band area with minimum another. This				
Mining factors or assumptions	 The mining method is conventional drill and blast, load and haul open pit mining operation. This utilises truck and excavator for waste movement, while coal is loaded using a combination of loaders and excavators with haulage to the Run of Mine (ROM) stockpiles, directly to the CHPP, or to other intermediate stockpiles using dump trucks. The operations are supported by additional equipment including dozers, graders and watercarts. 				
	 Geotechnical parameters are based on geotechnical studies undertaken by the Stockton engineering geologists. Different parameters are applied to each pit. Pit designs have been based on geotechnical constraints and parameters. The typical highwall configuration is a batter height of 15 m with batter angles between 30°- 63° using minimum 8.5 m wide benches. Maximum of 10% gradient and a 23 m wide running surface is being used for in pit ramps and roads. Minimum recoverable in situ thickness is 0.5 m. Reserve tonnages have been estimated using a density value calculated using approximated inground moisture values (Preston and Sanders method). As such, all tonnages quoted in this report are wet tonnes. 				
	 און נטמו עומוווופט עוטובע מוב טון מון און-טוובע מסטט (מעט). 				

Criteria	Commentary				
	 Pit design extents were established using standard Lerchs-Grossman (LG) pit design techniques and based on preliminary economic and geotechnical inputs. Pit limits are based on pit optimisation studies with restrictions for current land and mineral access determined by mining permits and granted consent limits. BT Mining completed an updated LG optimisation assessment in May 2019, the updated pit designs have been published for this years report. BT Mining informed Golder Associates (NZ) Limited of the results. Mine design strips by bench were applied to develop a mine schedules and used as a basis for reporting reserves. Reserve estimates include consideration of material modifying factors including: the status of environmental approvals; other governmental factors and infrastructure requirements for selected open pit mining methods and coal transportation to market (per JORC Code 2012). Grade control drill is undertaken as defined in Section 1 to 3. Allowances for mining dilution and recovery has been applied to the block model. The mining loss, contamination and dilution is based on the rock mass lithology above the coal roof and below the coal floor as follows in metres for each mineable horizon: 				
	Thickness (m)				
	Koor Floor Mudstone Lost: 0.10 0.05 Mudstone Contaminated 0.05 0.10 Mudstone Dilution: 0.25 0.25 Other Lost: 0.05 0.05 Other Contaminated: 0.10 0.10 Other Dilution: 0.05 0.05				
Metallumiant	 An additional modifying factor was added in 2017 to the Cypress North pit area to account for mining dilution introduced from a combination of sheeting and soft seam floor contacts. The dilution is estimated at the bench level on 3m mining horizons, this factor was extended into the Cypress South Pit area in 2018. Minimum mining widths are dependent on volumes to be excavated and the size of the fleet to be used. Typically for the bulk excavator and truck fleet this is approximately 30m. For the small excavators and trucks this is approximately 15m. Current mining methods require the following infrastructure: Haul Roads, Drainage, dewatering and transfer pumps, sumps and dam structures, Lime Dosing Plants, coal stockpile areas, CHPP, coal load out and bins, aerial ropeway, train load out and bins, workshop, offices, store, maintenance and contractor facilities. Most of this infrastructure is in place with the main new infrastructure required being sumps, dams and water control as the mine expands into undisturbed areas. 				
Metallurgical factors or assumptions	Coal with ash <8% is considered "bypass" coal and does not require any further processing. Coal with ash >8% "Wash" coal needs to be processed through the company's Coal Handling and Processing Plant (CHPP). The feed cut-off grade depends on the ash source, being either >8% and <35% if ash is in situ, or >8% and <50% ash, if contaminated with non-coal material (e.g. ash introduced due to previous underground extraction). An estimated 25% of total ROM Coal Reserve tonnes require washing to make a marketable product. Wash coal won is processed at the adjacent Stockton mine that has a CHPP in operation to produce a marketable product. Online analysers are utilised for identifying coal that is out of specification. Additional samples are sent for petrographic analysis (Romax). The processes used are standard for the coal industry and so are well tested technologies. This has also been backed up by bulk samples being taken and tested for washability, yield and recovery factors. Historical plant performance was used to review these factors applied in the model, and these modifying factors updated in the block model 2017				

Criteria	Commentary				
Environmental	 All mining approvals, consents, permits and licence to operate have been granted for Cypress Mine area in MP41515. The Cypress mine operates in a sensitive environment and has a complex set of consent conditions that require diligent management. Environmental planning and management is fully integrated with coal mining at Cypress and the mine has annual rehabilitation targets. Developing an area for mining includes systems to divert clean surface water around the area and ensure any water from the work site which is carrying sediment is collected and channelled into the mine's water treatment infrastructures. Soil and vegetation are carefully lifted and taken to a holding area or immediately placed in an area of the mine undergoing rehabilitation. Red tussock and Herb fields are carefully lifted and transported to specially design storage areas to allow them to be transplanted back in Cypress pit once the pit has been mined then backfilled to the original ground level. Environmental impacts that have been identified can be mitigated to meet permitting requirements. 				
Infrastructure	 Cypress is an operating satellite mine area of the greater Stockton mine with existing infrastructure in place to support the operation. Most of this is based at the nearby Stockton mine (CML37150). This includes a network of haul roads, CHPP, ROM stockpile area, water treatment plant, lime dosing plant, workshop, offices, aerial ropeway, train load out facility, water treatment structures and intermediate coal stockpiles, waste rock dumps, weighbridge area, contractors laydown yard, power station and explosives storage. Labour is primarily sourced from the nearby town of Westport. Accommodation for the labour source is off-site in the small nearby towns but primarily in Westport. 				
Costs	 Cypress is an operating mine and majority of the capital has already been spent. Some additional capital expenditure is required to maintain existing structures, mobile fleet replacement and also to develop additional water infrastructure as required for future mining areas (e.g. Resource definition). Operating costs are reviewed annually. These are based on historical actual's and forecasting for the following financial year. This is made up of equipment costs, fuel consumption, construction, fixed costs, administration costs, environmental costs and transport costs. Annual Budget prices for major consumables and infrastructure is used. The CHPP is owned by BT Mining Limited and costs are based on the demand for wash product in the annual budget. Mine Rescue levy, License and Inspection levy, Energy Resources levy, Crown royalty, Coal Mining Licence fees, FME carbon and land rates are applied as per appropriate NZ legislation. 				
Revenue factors	 Coal price rees, FWL carbon and rates are appred as per appropriate W2 legislation. Coal price assumptions applied in the 2015 optimisation study were assumed: Hard Coking Coal (HCC) prices were based on Wood Mackenzie April 2015 (long term forecast). All other prices derived from HCC based on agreed company ratios (semi-hard (SHCC) 87%, semi-soft (SSCC) 70%). Exchange rates Bloomberg (April 2015 forward curve 10 years). BT Mining conducted an updated optimisation in May 2019 based on prices derived from consensus on published benchmark HCC sale price and agreed updated company ratios (SHCC 78%, SSCC 62%, coal with sulphur >2% discounted to 38%) and using consensus published short term exchange rates, PricewaterhouseCoopers and other publicly available forecasts. Thermal coal is uneconomic at the current sale price and excluded from the 2023 Coal Reserve tonnes. Thermal coal extracted as part of mining process is currently taking advantage of current elevated Thermal coal prices and being sold into the international markets. Discount rate is reviewed annually based on BT Mining company real rate 				
Market assessment	• The supply and demand situation for coal is affected by a wide range of factors, and coal consumption changes with economic development and circumstances. BT Mining has sales agreements in place with some existing customers. Established external forecast analysts have provided guidance to assess the long term market and sales of coal.				

Criteria	Commentary			
	 Coal product types are classified into Semi-hard and Semi-soft based on product specifications and further separated into low sulphur < 4% adb and high sulphur > 4% adb. Approximately 4% of the Coal Reserve has a sulphur content > 4% and requires a blend partner to make a marketable product. BT Mining Limited Marketing team is regularly in talks with new customers and investigate potential new markets. 			
Economic	 consideration: mining, processing, civils, administration, haulage, aerial ropeway, rail, port cost and licences and levy's as per appropriate NZ legislation. Pit optimisation was carried out using a revenue factor (RF) range of 0.4 to 2.0 in 0.1 intervals The incremental RFs allow for the generation of different pit shells, allowing different stages the chosen rather than just mining the ultimate pit. RFs > 1 provide an indication of the possible size of a pit with potential price increases and designate likely infrastructure or waste rock storage areas. Sensitivity analysis has been completed by Golder Associates (NZ) Limited in 2015 and by B Mining in May 2019 on commodity price variations which is the primary driver for the Cypres pits. The reported Coal Reserve is based on economic viability determined by a BT Mining conducte coshflow analysis using actual aits performance, postal mining place and PT's marketing at using a studies of the storage of the storage of the primary driver for the coshflow analysis using actual aits performance. 			
	for sales and pricing, and Golder Associates (NZ) Limited informed of the results.			
Social	 BT Mining Limited currently holds the required DOC Permits for Mining and access to mine the Cypress Region. The Cypress region requires additional permits to operate covering vegetation disturbance, wild life (kiwis, etc.), water discharge As a part of resource consenting process and general site operations, regular communication and consultation has taken place with the local communities including the local lwi. 			
Other	 BT Mining Limited acquired the Cypress deposit and adjacent Stockton Mine assets from Solid Energy New Zealand Ltd on 1 September 2017. All material legal agreements, marketing arrangements and government approvals are in place and active for the existing operation. Geotechnical stability can impact Coal Reserves if not continually managed, instability in the north highwall occurred in 2020 that removed 70 thousand tonne from the Coal Reserve and required redesign of the pit. In Cypress South Pit the redesign took out 634 thousand tonnes. The mine employs specific geotechnical staff and has well defined geotechnical standards to mitigate the risk. The highwall requires ongoing monitoring. There are no other currently identified material naturally occurring risks that could impact the project or estimated Coal Reserves. 			
Classification	 Coal Reserves are based upon resources classified as either Measured or Indicated from the Coal Resource estimation and classification process. The Coal Reserve classification results appropriately reflect the Competent Persons view of the deposits. 1% of Probable Coal Reserves are derived from Measured Coal Resources. Coal tonnes with >4% sulphur require blending with low sulphur coal from the Bathurst Resources Limited (BRL, parent company) owned projects or other unidentified external sources to make a marketable product and have been classified as Probable. 			
Audits or reviews	 In 2008 a study was undertaken to assess coal washability and based on the results the current CHPP constructed and remains in use at the site. Palaris undertook a review of the Cypress reserve model in 2013. Internal review of the Pit Optimisation Study was undertaken in 2014. A Pit Optimisation study was completed in June 2015 by Golder Associates. Palaris Pty undertook a review of the Cypress reserve model in 2016 as part of a vendor due diligence for Solid Energy New Zealand Ltd. The mining and CHPP performance were reconciled in 2017 with actuals. Golder recommends 			

Criteria	Commentary			
	 that at a minimum there is annual reconciliation performed. A 2019 reconciliation on a mined block in Cypress North pit area by the BT Mining site coal quality geologist, showed the overall marketable coal recovery was consistent with that modelled even though the actual proportion of Bypass to Wash coal won was lower than modelled by approximately 10%. 			
Discussion of relative accuracy/ confidence	 Mineral Resources have been reported in accordance with the guidelines of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and reflects the relative accuracy of the Mineral Resource estimates. The statements relate to global estimates of tonnes and grade. Accuracy and confidence of modifying factors are generally consistent with the current operation. Modifying factors applied to the Cypress Reserves are Mining Losses, Dilution and Contamination to Roof, Floor and at 3 m bench intervals of the coal seam. The amount of losses, dilution and contamination are dependent on the lithology of the rock in the roof and floor, weather and mining method. Dilution requires careful management and can result in higher percentages of coal that requires beneficiation to make a saleable product. There is a coal wash plant available. Plant performance data sets are still limited and require reconciliation on at least an annual basis. Marketable coal tonnes are reported on the basis of in-ground moisture only, further data and assessment is required to report product on a total moisture basis. The accuracy of the Coal Reserve estimate is primarily dependent on the ability to sell the coal at the estimated prices and the actual site operating costs. Site operating costs have been reviewed internally and reconciled against actual performance 			

Appendix A:



Figure 1: Location Plan



Figure 2: Resource Model Areas



Figure 3: Regional Geology



Figure 4: Schematic diagram of Upper Waimangaroa Coal Seam naming convention and correlation alongside that of the Cypress deposit to the north



Figure 5: Plan showing the drilling dataset used to produce the resource model



Figure 6: Plan showing the 2023 resource classification polygons



Figure 7: Extent of Underground Workings and 2023 resource classification



Figure 8: Plan showing the structure contours of coal seam floor



Figure 9: Plan showing full seam thickness (M1 Coal Seam) contours for the Upper Waimangaroa South area



Figure 10: Plan showing full seam thickness (M2 Coal Seam) contours



Figure 11: Plan showing in-situ full M1 seam ash on an air-dried basis across the Upper Waimangaroa South resource



Figure 12: Plan showing in-situ full M2 seam ash on an air-dried basis across the Cypress resource area



Figure 13: Plan showing full M1 seam sulphur on an air-dried basis across the Upper Waimangaroa South resource



Figure 14: Plan showing full M2 seam sulphur on an air-dried basis across the Cypress resource



Figure 15: Plan showing full M1 seam Volatile Matter on an air-dried basis across the Upper Waimangaroa South resource



Figure 16: Plan showing full M2 seam Volatile Matter on an air-dried basis across the Cypress resource



Figure 17: Plan showing the Romax for the M2 Coal Seam





Figure 18: Upper Waimangaroa reserves pit shells

JORC Code, 2012 Edition – Table 1 Report for the North Buller Project 2023

Section 1 Sampling Techniques and Data

Criteria	Commentary
Constitu	
Sampling techniques	 North Buller is an historic mining district, with recorded coal production spanning over a century. Historic exploration data of varying quality is available for much of the area. Modern exploration campaigns include data obtained since 2009: 3 HQ Triple Tube core (TTC) holes drilled by L&M Ltd in 2009. 96 PQ TTC holes, reduced to HQ where necessary. Drilled from 2012 – 2013. 3 outcrop trenches. Drilling has aimed to infill areas around zones of historic workings that are lacking quality data
	 and to test reliability of historic data. Drilling has been concentrated on a few key areas primarily due to ease of access and prospects for development. Coal sampling was based on the Bathurst Resources Ltd (BRL) Coal Sampling procedures.
	 Coal quality ply samples have been selected on all coal logged by a geologist where the geologist had 95% confidence that the ash will fall below 50%. Material with an estimated ash over 50% was not sampled unless the material was a parting of < 0.1m in thickness within a coal seam whereby it would be included within a larger ply sample. Ply samples were generally taken over intervals no greater than 0.5m.
Deillinen	All analytical data has been assessed and vehilled before inclusion into the resource model.
techniques	 BRL managed drilling campaigns have utilised the following drilling methods. Full PQ triple tube core (TTC), in many cases overlying strata was open-holed through. HQ triple tube core only where necessary. Washed drilled overburden where applicable.
	 PQ triple tube core. HQ triple tube core. NQ triple tube core. Washed drilled.
	All exploration drillholes were collared vertically.
	Recent drilling campaigns utilised PQ sized drilling to maximize core recovery.
Drill sample recovery	 Core recovery was measured by the logging geologist for each drillers run (usually 1.5m) in each drillhole. If recovery of coal intersections dropped below 85% the drillholes required a re-drill. Drillers were paid an incentive if coal recovery was above 90%. In some instances the recovery of thin rider seams (< 0.5m) has been poor due to the soft friable
	nature of the coal. Therefore the sample dataset for the rider seams and lower seam is not as evenly spatially distributed as the main seam.
	 Average total core recovery over the recent drilling campaigns in North Buller was 93%.
	 Where small intervals of coal were lost, and where geophysics indicated strongly that coal was lost, ash values were estimated using the results of overlying and underlying ply samples and the relative response of the open-hole density trace.
Logging	 BRL has developed a standardised core logging procedure and all core logging completed by BRL has followed this standard.
	 All modern drill core has been geologically and geotechnically logged by geologists under the supervision and guidance of a team of experienced exploration geologists. As much data as possible has been logged and recorded including geotechnical and rock strength data
	 All core was photographed prior to sampling. Depth metre marks and ply intervals are noted on core in each photograph.
	 Down-hole geophysical logs were used to aid core logging. BRL aimed to geophysically log every drillholes that intersected coal providing that downhole conditions and operational constraints allowed. The standard suite of tools run included density,

Criteria	Commentary				
	dip meter, sonic, and natural gamma.				
	Where drillhole conditions were poor or mine workings were intersected only in-rods densit				
	acquired. In-rods density produced a re	eliable trace for use in seam correlation and depth			
	adjustment but was not used for ash corre	elations.			
	Down-hole geophysics were used to corr	relate coal seams, to confirm depths and thickness of			
	recovery rates of coal.				
	recovery rates of coal.	atoined and collibrated all tools on par their internal			
	calibration procedures. Additionally, geophysics equipment was calibrated and tested using				
	calibration hole on the Denniston Plateau	with known depth to coal, thickness and guality. These			
	calibration methods are deemed to be sufficient as both sites host the same Brunner Coa Measures.				
Sub-sampling	• For all exploration data acquired by BRL, an in-house detailed sampling procedure was used.				
techniques	Sampling and sample preparation are cor	nsistent with international coal sampling methodology.			
preparation	• Ply samples include all coal recovered for the interval of the sample. Core was not cut or halved.				
p: -p=: =====	Ply sample intervals were generally 0.5m	unless dictated by thin, split or parting thickness.			
	 All drilling in the recent campaigns have I 	been completed using triple tube cored holes. No chip			
	or RC samples were taken in these camp	aigns.			
	 Assay samples were completed at the coll Coal intervals were wrapped at the drill si 	te prior to transport			
	 Samples were taken as soon as practica 	ble and stored in a chiller until transported to the coal			
	quality laboratory.				
	A series of random duplicate samples repr	resenting 4% of the total number of samples from North			
	Buller has been completed by CRL Energy Itd. The results of this duplicate testing were				
	 comparable to that reported by SGS New Zealand Limited (SGS). Geochemical sampling for overburden characterisation has been completed by taking 				
0	representative samples of core at set 5m intervals above the coal seam in a subset of drillholes.				
Quality of assav data	 All coal quality testing completed for BRL has been carried out by accredited laboratory SGS. SGS have used the following standards for their assay test work: Provimate analysis (ASTM 7582) 				
and laboratory					
tests	\circ Ash (ISO 1171)				
	 Volatile matter (ISO 562) 				
	 Inherent moisture (ISO 5068) 				
	\circ Total sulphur analysis (ASTM 4239	Э)			
	• Crucible swell tests (ISO 501)				
	 Calorific value (ISO 1928) 				
	 Loss on drying data (ISO 13909-4) Bolotivo dopoity (AS 1028-21-1-1) 	1			
	CRI completed much of the assay test w	ork for samples collected prior to BRI taking over the			
	 CRL completed much of the assay test work for samples collected prof to BRL taking over to projects 				
	CRL used the following standards for their	test work:			
	 Inherent moisture (ISO 117221) 				
	o Ash (ISO 1171)				
	 Volatile matter (ISO 562) 				
	 Calorific value (ISO 1928) Crucible swelling index (ISO 501) 				
	Buin 505 and UKL are accredited laborat All analysis was undertaken and reported	unes.			
	 All analysis was undertaken and reported on an all-dried basis unless stated otherwise. BRL has completed a total of 11 composite coal quality samples. Composite samples have 				
	tested using the following standards:				
	Test Work Standard Followed				
	Loss on air drying	(ISO 13909-4)			
	Inherent Moisture	(ASTM D 7582 mod)			

Criteria	Commentary				
		Ash	(ASTM D 7582 mod)		
		Volatile Matter	(ASTM D 7582 mod)		
		Fixed Carbon	by difference		
		Sulphur	(ASTM D 4239)		
		Swelling Index	(ISO 501)		
		Calorific Value	(ISO 1928)		
		Mean Maximum Reflectance All	Laboratory Standard		
		Chlorine in Coal	(ASTM D4208)		
		Hardgrove Grindability Index	(ISO 5074)		
		Gioseler Plastometer	(ISO 3074) (ASTM D 2630)		
		Audibert Arnu Dilatometer	(ISO 349)		
		Forms of Sulphur	(AS 1038 Part 11)		
		Ash Fusion Temperatures	(ISO 540)		
		Ash Constituents (XRF)	(ASTM D 4326)		
		Ultimate Analysis	Laboratory Standard		
Varification of		Sample appay regulte have been gross refe	repard and compared age	ingt lithology logo and	
 Verification of sampling and assaying Sample assay results have been cross referenced and compared against lithological downhole geophysics data. Results are also inspected by experienced geologists and with expected values utilising known coal quality relationships for the North Buller c 			ologists and compared th Buller coalfield.		
	•	Anomalous assay results were investigated, and where necessary the laboratory was contacted			
		and a retest undertaken from sample residue.			
	•	Three twinned holes have been drilled at the project with consistent results obtained between drillboles			
	•	uninoles.			
	 Laboratory data is imported directly into an acquire database with no manual data entry at en				
		is 'locked' in an acQuire database to ensure the data is not inadvertently compromised.			
Location of	•	Modern drillholes positions have been surveyed using Trimble RTK survey equipment.			
data points	 Historic mine plans have been georeferenced by locating and surveying historic survey ma and mine portals drawn on mine plans. Some historic mine plans are poorly controlled spat and a large variance from the current georeferenced images is possible. 				
	 New Zealand Trans Mercator 2000 Projection is used by BRL for most of its project areas. NZT is considered a standard coordinate system for general mapping within New Zealand. Histor data has been converted from various local circuits and map grids using NZ standard cadastr conversions. 				
	 A LiDAR survey was carried out over the North Buller area in December 2012. This LiDAR provides very accurate topographic data used in the model. Contractor's specifications state for the choice of sensor and operating settings used for this project, the LiDAR se manufacturer's specification states 0.15m (1-sigma) horizontal accuracy and 0.1m (1-sigma the open ground elevation accuracy 				
	•	Surveyed elevations of drillholes collars are v corrected aerial photography. Historic hole consurface and most are within 1m to 2m of the historic holes with a large discrepancy in the discrepancy may be due in part to earthworks.	validated against the LiDAR ollar elevations have been c le surface. There are howe ne RL of the collar and the s.	topography and ortho- ompared to the LiDAR ver a small number of a LiDAR surface. This	
Data spacing	•	Drillhole spacing in North Buller is not h	omogenous. Recent drilling	g has targeted areas	
and distribution		surrounding historic underground workings as produced three areas of relatively high dens Central and Coal Creek blocks.	nd where land access has be ty drilling, namely Charming	een available. This has Greek, Chasm Creek	
	•	Data spacing for the three drilling areas has b fill the total area of each project divided by nur spacing for these areas is summarised below	een estimated by calculating nber of drillholes within that a	g the radius required to area. Average drillholes	

Criteria	Commentary
Orientation of data in relation to geological structure	 Charming Creek has an estimated average spacing of 125m. Chasm Creek Central has an estimated average spacing of 100m. Coal Creek area has an estimated average drillholes spacing of 125m. Average drillholes spacing for the entire project area is approximately 210m. Drillholes spacing is not the only measurement used by BRL to establish the degree of resource uncertainty and therefore the resource classification. BRL uses a multivariate approach to resource classification. The current drillholes spacing is deemed sufficient for coal seam correlation and resource estimation purposes within targeted areas. Geostatistics has been applied to the North Buller dataset but variography results were poor due to the uneven distribution of drillholes and structural complexity of parts of the deposit. Full seam variography of ash indicated a maximum distance correlation of ~500m and therefore no resources have been classified where distance to nearest samples are greater than 500m. The samples database is composited to 0.5m sample length prior to grade estimation. Any samples with composited length of less than 0.1m are not included in the estimation. Compositing starts at the top of seam and small samples are not distributed or merged. All exploration drilling has been completed with a vertical orientation. Down hole deviation data was acquired by BRL during modern campaigns and showed little to no deviation in those holes. Holes without deviation plots are assumed to be vertical. Any deviation form vertical is not expected to have a material effect on geological understanding as the average drillholes depth in the dataset is 45m with the deepest coal intersection of 116m. At a depth of 60m a 1° deviation. The majority of the deposit presents a shallow seam dip between 5° – 10°. Vertical drilling is considered to be the most suitable drilling method of assessing the coa
Sample security	 Stringent sample preparation and handling procedures have been followed by BRL. Ply samples are taken and recorded from drill core, bagged and placed within a locked chiller prior to being dispatched for analysis. It is not considered likely that individual coal samples face a risk of theft or sabotage as coal is a bulk commodity with little value for small volumes of coal from drill core.
Audits or reviews	 BRL has reviewed the geological data available and considers the data used to produce the resource model reliable and suitable for the purposes of generating a resource estimate. Results of a duplicate sample testing programme comparing SGS and CRL showed a strong correlation between labs. Senior BRL geologists undertake audits of the sample collection and analysis.

Section 2 Reporting of Exploration Results

Criteria	Commentary					
Mineral tenement and land tenure	BRL owns and operates two coal exploration permits in the North Buller area, northwest of Westport, New Zealand. BRL has 100% ownership in the following coal permits:					
Slalus	Permit Operation Expiry					
	Mining Permit 56233 Coal Creek 22/03/2031					
	 BRL has applied for an extension of land (EOL 56233.03) from Mining Permit 56233 to replace Exploration Permit 40628 in the North Buller area and it is reasonably expected that this permit application will be granted. The acquisition of the EP40628 and EP51078 permits (and any subsequent permits over the same area) from L&M includes a life of mine royalty based on a fixed percentage of FOB revenue. MP 56233 and the EOL 56233.03 are subsequent permits. The majority of the land in the North Buller area is Crown land administered by the Department 					

Criteria	Commer	Commentary							
Exploration done by other parties	 of Co Areas natur subje would Anoth with I that a Histo spann The h record 	of Conservation (DoC) as Ecological Areas (Section 21 Conservation act 1987) and Stewardship Areas (Part V Section 25 Conservation Act 1987). These areas are managed to protect the natural and historic values of the areas. Stewardship areas can be disposed of, but disposal is subject to a public process and it must be clear that their retention and continued management would not materially enhance the conservation or recreational values of adjacent land. Another large landowner within the study area is Ngai Tahu. BRL currently has an agreement with Ngai Tahu to provide access to land for exploration purposes and it is reasonably expected that access for mining would be able to be negotiated. Historic geological investigations and reports for the North Buller area have been compiled spanning the past 120 years. The historic drilling database includes the following drillholes compiled from historical data records.							
	Ye	ears	Agency	Range of Collar ID	# Holes	Drilling Method	# Holes in structure model	# Holes in quality model	Geophysic s Available
	1907		NZ State Coal - Seddonville Colliery	431 - 436	6	unknown	4	0	0
	1910	- 1912	Mines Department	415 - 430	16	unknown	16	0	0
	circa	1918 	Harbour Board	403, 437, 438	3	unknown	3	0	0
	1896	- 1936 (Westport - Cardiff Coal Co.	*	7	unknown	7	0	0
	1931·	·1932 (Cardiff Bridge Co- op Party	*	3	Diamond Core	1	0	0
	Unkn	own	unknown	401 - 402	2	unknown	1	0	0
	Pre 1	953 (Charming Creek Mine	439 - 450	12	unknown	11	0	0
	Pre 1	968 (Charming Creek Mine	451 - 462	12	unknown	10	0	0
	Unkn	own	Cardiff or Coronation Coal	463 - 469	7	unknown	6	0	0
	Unkn	own (Cardiff Holdings	470 - 474	5	unknown	1	0	0
	circa	1964 (Coal Creek Mine	475 - 481	7	unknown	4	0	0
	Unkn	own	unknown	491 - 493	3	unknown	3	0	0
	Pre 1	952	unknown	404 - 413	10	unknown	7	0	0
	Pre 1	952	shaft	414	1	unknown	1	0	0
	1986	l	Ministry of Energy	1432, 1442 - 1445	5	HQ core	5	4	5
	1978	I	MWD	482 - 490	10	Diamond Core	9	0	0
	 All h Asso deem BRL arour 	istoric ciates (ned unro is conti nd New	data has (NZ) Ltd ar eliable it wa inuing to so Zealand.	been valida nd again by as removed burce furthe	ated agains BRL staff from the rel or historic pl	t original s post acquis evant resou ans and rep	source docu ition of the rce model d ports from a	uments by project. Wh lataset. number of	L&M, Golder ere data was data libraries
Geology	The fThe l	 The North Buller project is located in the Buller Coalfield, New Zealand. The Buller Coalfield is at the northern end of the Paparoa Trough. a north northeast trending. 				east trending			

Criteria	Commentary
	 half-graben that subsided in the Eocene and was subsequently uplifted in the Cenozoic. The defined resource is contained within the Eocene aged Brunner Coal Measures. The coal measures consist of a fluviatile sequence of fine to very coarse sandstones, siltstone, mudstone and coal seams. The deposit generally contains a single seam deposited in elongate pods with some localised splitting of the seam and, in some areas, a pronounced rider seam package. The coal thickness can be up to 11m but generally averages 3-4m in thickness. The coal measures thin towards the east and thicken to the west where a thick conglomerate forms the base of the formation. Overlying the coal measures in most areas is the Kaiata Formation which consists of marine, slightly carbonaceous and calcareous mudstones. Quaternary river gravel deposits are scattered throughout the project area. Overburden thickness is generally around 30-40m but depths range from zero at the outcrop to over 300m in the northern extent of the model.
Drillholes Information	 Individual drillhole results are not tabulated and presented in this report; however, all drillhole data that pertains to the target coal seams has been loaded and modelled in the geological computer model used to estimate coal resources. The exclusion of this information from this report is considered to not be material to the understanding of the deposit. Incorporation of deviation data is not considered necessary, due to the gentle dips found in the area and shallow drilling methods resulting in insignificant deviation recorded in the exploration boreholes.
Data aggregation methods	 The maximum ash cut-off for building the North Buller structure model was set at 50%; however, due to various reasons, some thin assay samples where ash is greater than 50% are included in the coal quality dataset due to the structure model including the interval within a coal seam. Resources have been reported with an ash cut-off of 25%. Seams have been sampled on a ply-by-ply basis with ply boundaries determined by reconciliation against down hole geophysics.
Relationship between mineralisation widths and intercept lengths	 All exploration drillholes have been drilled vertically and the coal seams are generally gently dipping. Therefore the reported seam intercept thickness is representative of the true seam thickness. Dip meter and deviation plots are available for some holes. For those without this data it is assumed that a vertical orientation is achieved and, as most coal intersections are less than 100m in depth, any deviation from vertical would produce only a very minor effect on the reported depth to coal and coal thickness.
Diagrams	 Diagrams can be found in the Appendix A for each of the following: Location map Map showing Mining Permits Map showing mineral ownership Map showing land rights Map of historic workings Map showing drillhole dataset Map of Resource Classification Map of coal seam floor contours Map of coal seam thickness contours Map of coal seam ash contours Map of coal seam sulphur contours
Balanced reporting	 Exploration drilling results have not been reported. This has avoided any issues with unbalanced or biased reporting. The Competent Person does not believe that the exclusion of this comprehensive exploration data within this report detracts from the understanding of this report or the level of information
Other substantive	 provided. Geotechnical logs and samples were taken by the geologist during all exploration by BRL. Geotechnical logs identified defect types, angles and character through cored intervals.

Criteria	Commentary
exploration data	 BRL has tested 45 samples for overburden classification for acid forming and neutralising potential in North Buller. These tests indicate that the majority of overburden is acid neutralising. Further overburden characterisation testing will be conducted prior to any mining proposal.
Further work	 BRL has been granted an access arrangement from the Department of Conservation (DoC) for drilling activities on land administered by DoC in the North Buller project area. BRL is currently focusing resources on its Escarpment project and therefore no drilling is planned for North Buller in the near future.
	 Freid mapping is continuing in North Buller to continuing targets outside of the current resource areas.
	• A bulk sample is planned to be taken from within the North Buller project area for marketing purposes.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity Site visits	 All historic and legacy datasets have been thoroughly validated against original logs and results tables. BRL utilises an acQuire database to store and maintain its geological exploration dataset. The acQuire database places explicit controls on certain data fields as they are entered or imported into the database such as overlapping intervals, coincident samples, illegal sample values, standardised look-up tables for logging codes etc. Manual data entry of assay results is not required as results are imported directly. Mark Lionnet (the Competent Person) has worked as a geologist for over 10 years in the Buller
	 coalfield and has a full-time role with Bathurst Resources Limited as the Export Project Manager. Mr. Lionnet is familiar with the local and regional geology and style of deposit within the North Buller region.
Geological interpretation	 BRL has confidence in the geological model and the interpretation of the available data. Confidence varies for different areas and this is reflected by the resource classification. BRL uses a multivariate approach to resource classification which takes into account a number of variables. BRL considers the amount of geological data sufficient to estimate the resource. Uncertainty surrounds the historic mine workings, both in the quality and quantity of coal extracted and surveying and positioning of underground workings. This is reflected in the resource classification. BRL has used a total of 10 synthetic holes in the structure model which are based on historic drillholes where geo-referencing of the collar locations is poor. Quaternary river gravel deposits overly the coal measures as an unconformity over the northern portion of the project area. Some uncertainty surrounds the depth of weathering and the extent of the gravel deposits. A conservative approach to modeling this Quaternary erosional surface has been used in the model.
Dimensions	 The main coal seam varies in thickness from less than 1m thick up to 11m thickness locally. Depth of cover varies from 0m at outcrop to over 300m at the northern boundary of the model. Inferred resources include coal to 118m below surface. Indicated resources include coal to 102m below surface. Measured resource includes coal down to 64m below surface. The deposit roughly covers a 6km by 5km area. The deposit is bounded by the Mokihinui River to the north, and the Glasgow Fault to the east and the Lamplough Fault to the west.
Estimation and modeling techniques	 All available and reliable exploration data has been used to create a geological block model which has been used for resource estimation and classification. All exploration drilling data is stored in acQuire and exported into a Vulcan drillhole database. All Mapping data is stored in acQuire and exported in various Vulcan layers. Interpretive data is stored within Vulcan in various layers. A coal horizons definition has been developed and is used in the stratigraphic modeling process.

Criteria	Commentary				
Criteria	 Commentary Vulcan 8.2.1 was used to build the structure model. Grid spacing is 10m x 10m. This spacing was selected to be 1/5 of the minimum drill spacing of a targeted area. Vulcan's stacking method was used to produce the structure model. This method triangulates a reference surface (coal roof) and then stacks the remaining horizons by adding structure thickness using inverse distance. The maximum triangle length for the reference surface was set to 2,000m. Based on geostatistics for full seam thickness, the maximum search radius for inverse distance is 2,000m. The inverse distance power is set to 2, with maximum samples set to 8. Structure grids are checked and validated before being used to construct the resource block model. Vulcan 8.2.1 is used to build the block model and to grade estimate. The process is automated using a Lava script. The coal structure surfaces, along with LiDAR topography surfaces and quaternary unconformity surfaces are used to build the block model. The block dimensions are constructed at 10m x 10m. Vertical thickness. Grade estimation is performed utilising Vulcan's Tetra Projection Model. The main seam, and two discontinuous rider seams are estimated for ash, sulphur, air-dried moisture and in situ moisture, volatile matter, crucible swell index, and calorific value. All qualities are estimated simultaneously. A total of 10 search passes are used to grade estimate the model. Gerade estimation is computed using an inverse distance squared function. Various methods have been used to check the validity of the block estimation. This includes manual inspection of the model, QQ plots of block model qualities versus the coal quality database and other comparison tools. Resource tonnages within the model have been discounted where the resource falls within an historic underground workings area. The primary mining method utilised historically in North Buller area is Bord and Pillar m				
	Historic extraction rates are estimated using mining extraction reports and tonnage reports. The extraction rates used to discount coal tonnages in the resource model are as follows: Mining Method Extraction Rate				
	First worked 35%				
	Pillars extracted 53%				
	Undifferentiated 50%				
Moisture	 Resource tonnages are reported using natural bed moisture, calculated from air-dried density, air-dried moisture and in situ moisture using the Preston Sanders equation. Block air-dried density is calculated from the block air-dried ash value using the ash-density relationship derived from the project dataset. 				
Cut-off	Structure grids have been developed based on a 50% ash cut-off. Some higher ash samples are				
parameters	retained within the coal quality dataset to allow simplification of the seam model where higher				
	ash partings become more abundant.				
	 No lower cut-on has been applied. There is an inherent minimum limit to ash samples in modern results due to a laboratory lower detection limit of 0.17%. 				
	 Coal resources are reported down to a seam thickness of 0.5m (one block) with an ash cut-off 				
	of 25%.				
Mining factors	• Minimum seam thickness is set at 0.5m or one block in height. An ash cutoff of 25% is used for				
assumptions	reporting resources.				
-	 No other mining factors such as supratios, mining losses and dilutions have been applied when developing the resource model. 				

Criteria	Commentary				
Metallurgical factors or assumptions	BRL understands that as the majority of the reported resource has a high sulphur content, the North Buller coal will likely require blending with a low sulphur coal before a saleable product is obtained. No other metallurgical assumptions have been applied in estimating the resource.				
Environmental factors or assumptions	Any open pit mining and coal transport will be conducted amid environmentally and culturally sensitive areas. The project area is a likely habitat for endangered snail and kiwi species. High rainfall rates, potentially acid-generating overburden and historical acid mine drainage are all items that will have to be considered in future prefeasibility studies. Environmental values of the project area ranges from low to high. Low values relate to devegetated and exotic forest areas owned and managed by Ngai Tahu, and terrace and river flat pastoral farming operations. Areas of high environmental values incorporate the DoC managed Ecological Areas (Section 21 Conservation act 1987) and the Charming Creek Walkway. Current overburden characterisation testing has shown that the majority of Kaiata Mudstone overburden is acid-neutralising. This material could be used to counteract any acid forming material derived from the Brunner Coal Measures.				
Bulk density	 A total of 108 relative density (air-dried) sample results are available for the North Buller project area taken from 19 drillholes. The relative density samples are not well distributed throughout the project area however the sample set covers a full range of ash values from 0.92% to 61.6%. From this dataset an ash-density curve was generated with a coefficient of determination of R²=0.8982. 				
	North Buller Ash vs Relative Density				
	 Figure 1: Ash – Density relationship for North Buller project area. After grade estimation, density was calculated using the block ash value and the derived density equation. An in situ density value was then computed using the Preston Saunders method. In situ moisture determinations have been collected from drill core ply samples. 				
Classification	 BRL classifies resources using a multivariate approach. Coal resources have been classified on the basis of geological and grade continuity balanced by relative uncertainties surrounding historic underground extraction and proximity to faults. Closely spaced drilling with valid samples increases the confidence in resource assessments. The confidence is reduced by: A block being within an underground worked area due to extraction rate uncertainty. A block being within 20m of an underground worked area due to uncertainty with historic survey of the workings and georeferencing of mine plans. 				
Criteria	Commentary				
--	--				
	 A block being in an area of steep structure dip, usually in areas of large faults. A block lies within an area of thin or splitting seam resulting in uncertainty of geological continuity. If an area is within an historically worked area the resource is considered as Inferred as a minimum. 				
Audits or reviews	• A comprehensive internal review of the resource model has been carried out by BRL.				
Discussion of relative accuracy/ confidence	 Statistical comparisons between the resource block model and the coal quality data set have been carried out and are within expected ranges. Some anomalies exist due to non-normal data distribution. Techniques utilised include QQ plots and probability plots. No coal production is currently taking place within the resource area and therefore no 				
	reconciliation is available at this time to test the accuracy of the resource model.				

Appendix A:







Figure 3: Plan showing BRL owned coal permits in North Buller



Figure 4: Plan showing the mineral ownership and resource areas for the North Buller project



Figure 5: Land ownership in the North Buller project area. BRL has had access arrangements in place with both DOC and Ngai Tahu for exploration activities.



Figure 6: There is a rich history of coal mining in the Seddonville area. This plan shows the extents of historic mining within project area



Figure 7: Plan showing the drillholes dataset used to build the North Buller resource model



Figure 8: Plan showing the resource classification polygons. Modelled outcrop, faults and drillholes are also shown.



Figure 9: Plan showing the coal floor structure contours. Contours are shown at 10m levels.



Figure 10: Plan showing the aggregate coal thickness over the project area. Modelled coal outcrop and faults are also shown.



Figure 11: Plan showing the aggregate coal seam ash on an air-dried basis



Figure 12: Plan showing the aggregate coal seam sulphur on an air-dried basis

JORC Code, 2012 Edition – Table 1 Report for the New Brighton Project 2023

Section 1 Sampling Techniques and Data

Criteria	Сс	bmmentary
Sampling	٠	Multiple campaigns of data acquisition have been conducted in the Ohai Coalfield over the past
techniques		century.
	٠	Drillholes included within the New Brighton exploration dataset include drillholes drilled outside
		of Mining Permit (EP) 60400.
	٠	A combination of open hole (wash drilled), Reverse Circulation (RC), and cored drilling
		techniques has been used. Some logged and sampled trenching (channel sampling) has also
		been used.
	٠	Bathurst Resources Ltd (BRL) managed exploration campaigns include data from 2013, 2015,
		2019 and 2021. Drilling consists of:
		 9 Wash Drilled (WD) drillholes.
		 26 HQ/PQ (63.5/85 mm) triple tube core (TTC) diamond drillholes.
		o 17 Trenches.
	٠	Previous drilling dataset includes:
		 JY Series (2011) − 8 holes
		• MR Series (2011) – 5 holes
		• NBC Series (2011) – 11 holes
		• TWB drillhole (2009) – 1 hole
		• NBR Series (2007, 2008) – 5 holes
		 ECMBDH Series (2007) – 4 holes
		 OM Series (2005, 2007, 2009, 2011) – 7 holes
		 LMC Series (2005, 2007,2008) – 19 holes
		 LMR Series (2005) – 15 holes
		 PIT Series (2005) – 19 trenches
		 TP Series (1995) – 2 holes
		 300 Series (1984, 1986) – 9 holes
		 800 Series (1986) – 5 holes
		 Historical data of various vintages – 45 holes
	٠	Recent BRL managed drilling has aimed to infill areas to improve confidence and to test the
		reliability of the legacy dataset. Two drillholes were drilled as twins to LMC Series drillholes to
		obtain coal for marketing purposes.
	٠	Downhole geophysical logs are available for 11 of the BRL managed drillholes.
	٠	Where available, downhole geophysical logs were used to correlate coal seams, confirm depths
		and thickness of coal seams, and to validate drillers' logs. Downhole geophysical logs were also
		used to accurately calculate recovery rates of coal intersections.
	٠	Coal samples were generally taken over intervals no greater than 0.5m in length and included
		the full core sample.
	٠	Outcrop trench and channel data is entered into the drilling database in a form that replicates a
		drillhole at that location. Coal seam thickness and partings between coal seams were measured
		vertically.
	٠	All analytical data has been assessed and verified prior to inclusion in the resource model.
		Unreliable data was omitted.
Drilling	٠	All BRL managed drilling campaigns have utilised the following drilling methods:
techniques		• Full PQ TTC.
		• Full HQ TTC.
		• Combination WD/TTC.
	٠	Legacy drilling techniques include:
		• HQ TTC.
		 RC 133 mm.

Criteria	Commentary
	 WD using tricone/blade/strata bits.
	 Rotary wash, fishtail bit.
	• Excavated trenches with logged intersections comprise a small proportion of the primary sample
Defill a server la	dataset.
Drill sample	Core recovery was measured as the length of core recovered divided by the length of the driller's
recovery	run (typically 1.5m in length) and noted by the core logging geologist.
	 If recovery of coal intersections dropped below 90% the drillinole required a re-drill. For the 2013 drilling program drillers were paid on incentive if each recovery was above 200%
	Mean total core recovery over BPL managed drilling campaigns was 03 21% with core recovery
	of coal at 90.0% (this increases to 94.1% when drillhole NC085 is excluded, which may have
	intersected the edge of underground mine workings)
	Where downhole geophysical logging indicated that coal was lost raw ash values were
	estimated using the results of overlying and underlying coal ply samples and the relative
	response of the downhole density trace.
	• Little core recovery data is available for historical drillholes and those of previous operators.
Logging	BRL has developed standardised core logging procedures (BRL Coal Logging Procedures), and
	all core logging completed by BRL has followed these procedures.
	• All recent drill core has been geologically and geotechnically logged by logging geologists
	under the supervision and guidance of a team of experienced exploration and
	geotechnical geologists.
	• Drill core was photographed prior to sampling. Depth meter marks and coal ply intervals
	are noted on the drill core in each photograph.
	 Down-noise wireline geophysical logs were used to aid core logging to ensure true downhole donthe were recorded where applies he
	The standard of logging varies for loggev drilling compaigns
Sub-sampling	• The standard of logging values for legacy drilling campaigns.
techniques	• For all exploration data acquired by BRL, an in-house detailed sampling procedure was used (BRI Coal Sampling Procedures). Sampling and sample preparation are consistent with
and sample	internationally accepted coal sampling and sample preparation methodologies
preparation	• Ply samples include all coal recovered for the interval of the sample. Core was not cut or
, , , , , , , , , , , , , , , , , , ,	halved.
	• The TTC core was lithologically logged and the lithology intervals were used to determine
	actual coal ply sample depth at the drill site or in the core shed.
	• All TTC core samples were collected as soon as practicable after drilling and double
	bagged then sent to the SGS New Zealand Limited (SGS) Minerals Laboratory in
	Ngakawau where they were crushed and split.
	Some legacy campaigns did cut/halve coal ply samples.
	• The legacy drilling campaigns vary in the standard of sampling processes, some of which are
Ovelity of	
Quality of	SGS has been the predominant IANZ accredited laboratory used by BRL for coal quality testing an exploration drillbalaguaged in the resource model.
and laboratory	 SGS bas used the following standards for their assay test work:
tests	 Bos has used the following standards for their assay test work. Proximate Analysis is carried out to the ASTM 7582 standard
	$_{\circ}$ Ash has also used the standard ISO 1171.
	 Volatile matter has also used the standard ISO 562.
	 Inherent moisture has also used the ISO 5068.
	 Total sulphur analysis is carried out to the ASTM 4239 standard.
	 Calorific value results are obtained using the ISO 1928 standard.
	 Loss on drying data is completed using the ISO 13909-4 standard.
	 Relative Density is calculated using the standard AS 1038.21.1.1.
	• CRL Energy Ltd (CRL) are an IANZ accredited laboratory which completed much of the assay
	test work for samples collected prior to BRL's acquisition of the projects.
	URL used the following standards for their assay test work:
	 Ash tests utilised the ISO 1171 standard
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Criteria	Commentary
	 Volatile matter tests utilised the ISO 562 standard.
	 Calorific value tests utilised the ISO 1928 standard.
	All analysis was carried out and reported on an air-dried basis unless stated otherwise.
Verification of sampling and	Sample coal quality results have been cross-referenced and compared against lithology logs and downhole geophysical data. Results are also inspected by experienced geologists and compared
assaying	with expected values utilising known coal quality relationships for the Nightcaps/Ohai Coalfield.
	 Anomalous assay results are investigated, and where necessary the laboratory is contacted and a re-test was undertaken from sample residue.
	• Laboratory data is imported directly into an acQuire database with no manual data entry at either the laboratory or at BRL.
	Geophysical data has been used to establish coal seam thickness and depths on the margins of
	coal seams in RC drillholes, where sampling uncertainty inherent in RC drilling made coal sample and intersection depths less reliable.
Location of	• New Zealand Transverse Mercator 2000 Projection (NZTM) is used by BRL for the New Brighton
data points	project area. NZTM is considered a standard co-ordinate system for general mapping within New Zealand. Historical data has been converted from various local circuits and map grids using NZ
	standard cadastral conversions.
	 LiDAR and digital imagery was acquired in April 2013 using an Optech M200 LiDAR system and CS8900 medium format digital camera.
	 The data was collected flying 1,300m above the lowest ground and using a scanner field of view of 44°. Outgoing pulse rate was set at 70kHZ and minor scan frequency 33.5Hz.
	• The topographic surface used to build the model is derived from a combination of LiDAR data,
	and LINZ topographical data where LiDAR coverage in outer areas is unavailable.
	 Historical data has been converted from various local circuits and map grids to NZTM.
	Surveyed elevations of drillhole collars are validated against the LiDAR topography.
Data spacing	• The project has an average primary sample spacing of 230m; however, New Brighton Central
and	has an average primary sample spacing of 108m.
aistribution	 Drillhole spacing is not the only measurement used by BRL to establish the degree of resource uncertainty and therefore resource classification. BRL uses a multivariate approach to resource classification which is explained further in Section 3: Classification.
	• The current drillhole spacing is sufficient for coal seam correlation purposes in the majority of the
	project areas. Difficulties lie in seam correlation due to the abundant seams and often complex structural mechanisms such as faults and unconformities.
	• Many drillholes have not been to sufficient depth to intersect all coal seams in the stratigraphic sequence or have not completed diagnostic tests confirming Ohai Group or Nightcaps Group
	Only 75% of drillholes have had downhole geophysical logging completed, which is important for coal seam correlations.
	• The samples database is composited to 0.4m sample length prior to grade estimation. This is the mean sample length from BRL managed drilling.
	• Compositing starts at the top of the coal seam and small samples (<0.1m) are not distributed or merged.
Orientation of	All modern exploration drilling has been completed on a vertical orientation.
data in	• All historical drillholes are vertical except one. Those without deviation plots are assumed to be
relation to	vertical. OM07b was drilled as a coal seam gas drillhole and was deviated towards horizontal to
geological	drill through a thick coal seam to intersect OM05. OM07b is not used in the resource modelling
structure	process.
	 Any deviation from vertical is not expected to have a material effect on shallow, open pit resources. Average drillhole total depth in the dataset is 96m; however, 18 drillholes have a total depth >200m
	 Most of the deposit presents a moderate seam dip between 10 and 20° although some localised.
	steep dips do exist near fault traces.
	• Vertical drilling is the most suitable drilling method of assessing the coal resource at the New Brighton Project.

Criteria	Commentary
Sample security	 Rigorous sample preparation and handling procedures have been followed by BRL. Coal samples are taken and recorded from drill core, sealed in plastic bags, and securely stored prior to being dispatched to the laboratory for analysis. It is not considered likely that individual coal samples face a risk of theft or sabotage as coal is a bulk commodity with little value for small volumes of coal from drill core.
Audits or reviews	 Golder and BRL have reviewed the geological data available and consider the data used to produce the resource model reliable and suitable for the purposes of generating a Coal Resource estimate to the extent that the Coal Resource estimate has been classified. BRL senior geologists have undertaken audits of the sample collection and analysis processes.

Section	2	Reporting	of	Exploration	Results
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Criteria	Commentary	
Mineral	• The New Brighton Project resource model includes a Mining Permit owned by New Brighton	ghton
tenement and	Collieries Limited, an exploration permit owned by BRL and privately held land coal	rights
land tenure	attached to land titles in and around the Ohai Township. An area of open ground exists t	to the
status	south, west, and north of MP 60400 and is included in the resource model area. Coal Reso	urces
	have only been reported within MP 60400.	
	• Exploration Permit (EP) 60642 covers an area of 690.51 hectares and contains a portion	of the
	resource model area.	
	 MP 60400 covers an area of 250 hectares and all reported resources lie within this permit. 	
	An exploration permit application (FPA 61031) was lodged in July 2023 and surrounds MP6	30400
	to the north and south.	
	Permit/Rights Operation Mining Type Expiry	
	Exploration Permit Application Mossbank N/A N/A	
	61031	
	Exploration Permit 60642 Ohai Exploration Opencast, 15/04/2028	
	Mining Permit 60400 New Brighton Opencast, 20/06/2035	
	It is considered that there are reasonable prospects to negotiate access arrangements for m	nining
	with landowners covering the reported resource areas.	
Exploration	• Exploration drilling for the New Brighton Project was carried out by the L&M Group of comp	anies
done by other	between 2005 and 2011.	
parties	Historical data has been traced back to original reports and logs held at Archives NZ sto	orade
	centres. Historical data has been thoroughly investigated for reliability and guality and when	re the
	integrity of the data is limited it has been omitted from the resource model. Historical	data
	includes historical underground mine workings plans, geological reports and drilling logs.	uutu
Geology	The project is located in the Obai Coalfield, New Zealand	
Geology	• The project is located in the Orlai Coalield, New Zealand.	
	The Onal Coalier is a raul bounded basin containing Cretaceous sub-bituminous coal. The defined Ocel December is contained within the New Printer. Madeu and Dece	
	Ine defined Coal Resource is contained within the New Brighton, Moriey and Beau	Imont
	Formations.	
	• The Cretaceous Ohai Group contains three formations – the Wairio, New Brighton and N	lorley
	Formations.	
	 The Eocene Nightcaps Group contains two formations – the Beaumont and Orauea Forma 	tions.
	• The two groups are separated by an unconformity clearly distinguishable by micro-flora.	
	The majority of historical production has come from coal seams in the Morley Formation, v	which
	tend to contain higher quality coal. Coal seams are faulted and folded into complex struct	tures.
	Coal seam thickness and extent varies as coal seams are often lenticular and split or wa	ashed
	out by fluvial sand channels and syndepositional faulting and folding are indicated.	
	Morley Coal Measures of the Ohai Group have a combined vertical coal seam thickness	which
	averages 4.1m; however, 50m thick coal seams have been recorded in drillhole OM05, lo	cated
	250m west of the permit.	
	 Coal ranks range from sub-bituminous A to high volatile bituminous C. 	

Criteria	Comme	ntary						
	• Eoc	ene Beaumont Coa	al Measures of the	ne Nightca	ps Group	have a com	bined verti	cal coal seam
	thick	ness which average	ges 1.4m; howe	ver, 7m thi	ick coal se	ams have b	peen recor	ded within the
	Coa	Idale Pit. The Coal	rank varies from	n sub bitun	ninous C to	o sub bitumi	nous B.	
	• The	Nightcaps Group E	Beaumont Forma	ation Coal	Measures	are conform	hably overl	ain by Eocene
	Ora	uea Formation muc	Istone.					
Drillhole	Table 1 S	Showing summary o	of drilling data av	allable with	hin the res	ource model	area	1
Information	Years	Agency	Range of Collar ID	Number of Holes	Drilling Method	# Holes in Structure Model	in Coal Quality Model	Geophysics Available
	1923 - 1955	Various	Various	45	unknown	24	2	0
	1984	State Coal Mines	351 - 355	3	TTC	3	1	3
	1986	Lime & Marble Ltd	371 - 379	6	TTC	6	5	6
	1986	Mines Department	882 - 886	5	TTC, OH	5	5	5
	1995	Southgas Resources Ltd	TP05-06	2	ОН	2	0	2
	2005	Kenham Holdings Ltd (L&M)	PIT01 - PIT18, PIT_4m	19	Trench	8	3	0
	2005	L&M	LMR05 - LMR19	15	RC	14	8	9
	2005	L&M	LMC01 - LMC03	3	HQ TTC	3	3	0
	2005	L&M	OM1	1	TTC, OH	1	1	0
	2007	Eastern Corporation	ECMBDH01 - ECMBDH05	4	Trench	4	0	4
	2007	L&M	LMC04 - LMC11	8	TTC, OH, RC	8	7	8
	2007 - 2011	L&M	OM2 - OM7, OM7a, OM7b	6	он	3	0	3
	2007 - 2008	L&M	NBR01 - NBR06	5	ттс	5	1	0
	2008	L&M	LMC13 - LMC21	8	ттс	8	4	6
	2009	L&M (Nightcaps Contracting)	TWB-01	1	ОН	1	0	1
	2011	L&M	NBC11-1 to NBC11-23	11	HQ TTC	9	4	6
	2011	L&M	MR1 - MR5	5	TTC	5	1	5
	2011	L&M	JY2 - JY9	8	IIC	8	6	6
	2013	Resources Ltd	NC079 - NC085	7	TTC	5	5	3
	2015	Bathurst Resources Ltd	NB1001 - NBT008	8	Trench	2	2	0
	2015	Bathurst Resources Ltd	NC119 - NC129	11	TTC, OH	7	6	8
	2019	Bathurst Resources Ltd	NC220- NC221	2	TTC, OH	2	2	0
	2021	Bathurst Resources Ltd	NC264 – NC279	15	TTC, OH	15	10	12
	• Expl	oration drilling resu	ults for individual	drillholes	have not b	peen reporte	ed.	
	As c	coal is a bulk com	nodity the exclu aterial to the up	ision of de	etailed exp	loration dat	a from this	s document is
Data	The	nominal cut-off for	ash (adh) for cor	structing t		ighton struc	ture mode	l is set at 35%
aggregation	• The	resource model is	built as a block r	nodel with	0.5m bloc	k thickness	es for coal.	Coal ply data
methods	is us	sed to grade estimation	ate the block mo	del.				

Criteria	Commentary
	Coal ply data is composited into 0.4m samples for estimation and are length weighted
Relationship between mineralisation widths and intercept lengths	 All exploration drillholes have been drilled vertically and the coal seam is generally moderately dipping. Seam intercept thickness is representative of vertical seam thickness which is used to construct the stratigraphic model.
Diagrams	 Diagrams can be found in the Appendix A for each of the following: Location map. Map showing regional geology of the resource area. Map showing coal ownership rights and optimized shell used for resource reporting. Map showing exploration drillholes. Map showing historical mine workings. Resource classification, coal quality isopach plots and coal structure contour plots for New Brighton, Morley and Beaumont coal seams.
Balanced reporting	 As coal is a bulk commodity detailed exploration drilling results and coal intersections have not been reported. The exclusion of this information from this report is considered to not be material to the understanding of the deposit.
Other substantive exploration data	 Exploration drilling results have not been reported in detail. Some coal composite samples for full seam, minable sections have been taken for thorough analysis including ash constituents, forms of sulphur, ash fusion temperatures, and ultimate analysis. These composite samples are not used in grade estimation. A bulk sample of ~5,000 tonnes was taken in 2013 from the New Brighton Central prospect. Coal quality results from this sample on an as received basis were 4.7% ash and CV of 21.6 MJ/kg.
Further work	• Project evaluation is currently being undertaken. A resource consent application for mining at New Brighton is expected to be lodged in the FY24 year.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	 BRL utilises an acQuire database to store and maintain its exploration dataset. All historical and legacy datasets have been thoroughly checked and validated against original logs and results tables. The acQuire database places explicit controls on certain data fields as they are entered or imported into the database, such as overlapping intervals, coincident samples, out of range sample values, standardised look-up tables for logging codes. Manual data entry of coal quality results is not required as results are imported directly from laboratory results files.
	The database is automatically backed up on an offsite server.
Site visits	• Eden Sinclair (the Competent Person) has visited the area on numerous occasions including undertaking a number of exploration campaigns at the site and is familiar with the geology of the Ohai and Nightcaps Coalfields, and processes used to estimate coal resources for the site.
Geological interpretation	 Golder has conducted external reviews of the modelling processes in use by BRL to develop their resource model and Coal Resource estimates. The competent person has confidence in the methodologies used for geological modelling and the interpretation of the available Nightcaps Project data. Confidence varies for different areas, and this is reflected in the resource classification. Dry, mineral matter and sulphur free volatile matter is the principal quality used to differentiate and correlate Resource and Marlov coal seame.
	 BRL considers the quantity of geological data sufficient to estimate and report Coal Resources; however, an increased data density may increase confidence in some areas. Uncertainty surrounds the historical mine workings, both in the quality and quantity of coal

Criteria	Commentary
	extracted and the surveying/positioning of underground workings. This is reflected in the
	resource classification.
	• Some residual uncertainty of quality and confidence of legacy drilling data remains despite
Dimensions	thorough evaluation of the logs and drill locations.
Dimensions	 Several coal seams are present in the stratigraphic sequence. Up to three coal seams exist in each of the Resument. Marley and New Brighton Formations, with one existing in the Wairia Coal.
	Measures. The total combined coal thickness varies from less than 1m thick up to 50m locally
	(coal seam gas drillhole OM05)
	 The resource model covers an area 2.05km by 1.7km.
	A single primary prospect area exists within MP 60400. The New Brighton Central area covers
	an approximate area of 1.5km by 0.5km.
	• The deepest Coal Resources estimated and reported are located 60m below surface. All Coal
	Resources are contained within a Revenue Factor (RF) 1.2 optimised pit shell using current
	mining costs at Takitimu and based on appropriate economics for the New Zealand domestic
	coal market.
Estimation	• All available exploration data has been validated and, where considered reliable, has been used
and modelling	to develop a 3D geological block model for Coal Resource estimation and classification.
techniques	 All exploration drilling data is stored in an acQuire database and exported to a Maptek Vulcan™
	(Vulcan) drillhole database.
	Interpretive design data is stored within vuican in various design layers.
	• Due to the presence of two uncontronnable coal bearing formations, the model is sub-divided into two separate domains for modelling (Obai Group and Nightcaps Group). The Obai Group coal
	seams are truncated by the overlying unconformable Beaumont Coal Measures
	 A horizons definition was developed and used to define the coal seams to be modelled in the
	stratigraphic modelling process.
	• Vulcan is used to build the structure model. Grid spacing is 10m x 10m.
	• Maptek's Integrated Stratigraphic Model (ISM) module is used to produce the structure model.
	The stacking method is used which triangulates a reference surface and then stacks the
	remaining horizons by adding structure thickness. Thickness grids are created using an inverse
	distance (ID) modelling algorithm. Design data from other horizons is incorporated into the final
	grid structure. Modelling perometers for the two structurel modelling person are as follows:
	Modelning parameters for the two structural modelning passes are as follows.
	 Onal Group - Relefence grid surface (BOB Floor) by Stacking. Method is Triangulation
	\circ Trend Order is 1 (Linear).
	 Smoothing is 9.
	 The maximum triangle length is 1,500m.
	 Surfaces are splined.
	 Ohai Group - Reference grid thickness modelling by Stacking:
	• Method is Inverse Distance.
	• Power is 2.
	 Maximum number of interpretive points is 10. Trend Order is 0 (Herizontal Planar)
	\circ Smoothing is 9
	\circ Search Radius is 1.500m.
	• Surfaces are splined.
	 Nightcaps Group - Reference grid surface (UM11 floor) by Stacking:
	 Method is Triangulation.
	 Trend Order is 1 (Linear).
	• Smoothing is 9.
	 The maximum triangle length is 1,500m.
	• Surfaces are splined.
	INIghtcaps Group - Reference grid thickness modelling by Stacking: Method is Inverse Distance

	• Power is 3.
	 Maximum number of interpretive points is 8.
	• Trend Order is 0 (Horizontal Planar).
	• Smoothing is 9.
	• Search Radius is 1,500m.
	• Surfaces are splined.
	Structure grid models are checked and validated visually before being used to construct the resource block model
	Nulson is used to build the resource block model and to estimate grade. The process is
	 vulcan is used to build the resource block model and to estimate grade. The process is automated using a Lava script.
	• The stratigraphic structure grid models for each domain along with LiDAR topographic surface
	and Beaumont unconformity surface were used to build the block model. The block dimensions were constructed at 10m x 10m. Vertical thickness for the coal blocks is 0.5m
	Block Grade estimation is performed in Vulcan using the Tetra Projection unfolding methodology
	 Coal qualities are estimated on an air-dried basis except bed moisture. Ash, sulphur, inherent
	 and total moisture, volatile matter, and calorific value are estimated simultaneously. Grade estimation is computed using an ID function with power of 2.5.
	Three estimation passes are used to populate the grades in the model. Search ranges are
	circular at 150m, 400m, and 1,000m.
	• Various methods have been used to check the validity of the block estimation. This includes
	manual inspection of the model, Quantile Quantile (QQ) plots of the model qualities vs coal quality database and other comparison tools.
	Resource tonnages within the model have been discounted where the resource falls within
	historical underground workings areas. The primary mining method utilised historically in the New
	Brighton and Mossbank areas is bord and pillar mining and opencast mining. Historical extraction
	rates are estimated using historical mining extraction reports, and tonnage reports. The
	extraction rates used to discount coal tonnages in the resource model are as follows:
	Mining Method Extraction Rate
	Mining MethodExtraction RateUnderground38% of targeted UM/ON seam horizons,
	Mining MethodExtraction RateUnderground38% of targeted UM/ON seam horizons, 50% of targeted NB seam horizons
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Criteria

Commentary

Criteria	Commentary
	• Coal Resources are reported down to a seam thickness of 0.5m (one block) with an ash cut-off
	of 25%.
	• Coal Resources have been defined as economic by using a breakeven Lerchs-Grossman
	optimised opencast pit shell. The RF1.2 shell from the optimisation has been used. No Coal
	determine Reasonable Prospects for Eventual Economic Extraction (RPEEE).
Mining factors	 No mining factors such as mining losses and dilutions have been applied when developing the
or	resource model.
assumptions	• Current economic and mining parameters for domestic coal sales were used to define the RF1.2
	optimised pit shell which was used to define coal that has RPEEE.
Metallurgical	• No metallurgical assumptions have been applied in estimating the resource. It is not known if a
factors or	wash plant would be required for coal processing.
assumptions	
Environmental	 No environmental assumptions have been applied in developing the resource model.
factors or	• It is assumed that overburden is not acid forming as is the case at other mines in the Ohai
assumptions	coalfield.
Bulk density	 At the time of development of the resource model, a total of 66 relative density (air-dried) sample results are available for the New Brighton Project
	The samples are distributed throughout the project area and the sample set covers a range of
	ash values from 1.7 to 56.2%.
	• From this dataset an ash-density curve was generated with a coefficient of determination of
	R ² =0.98 for New Brighton coal, R ² =0.92 for Morley coal, and R ² =0.84 for Beaumont coal.
	• Air-dried density is calculated using the air-dried block ash value and the derived density
	equations.
	New Brighton coal: Density $(ad) = (0.0091 * ash) + 1.3181$.
	Morley coal: Density (ad) = $(0.0097 * ash) + 1.2944$.
	Beaumont coal: Density (ad) = $(0.0105 \text{ ash}) + 1.25$.
	• An in situ bulk density value is computed using the Preston and Sanders method; Density (ns) = (RD * (100 - mo, ad)) / (100 + RD*(mo, ar - mo, ad)- mo, ar)
	 Where RD is relative density on an air-dried basis mo ad is inherent moisture and mo ar is
	total moisture.
Classification	BRL classifies resources using a multivariate approach.
	• Coal Resources have been classified on the basis of geological and grade continuity balanced
	by relative uncertainties surrounding historical underground extraction and proximity to faults and
	unconformities.
	• Closely spaced drillholes with valid coal quality samples (points of observation) increase the
	confidence in resource assessments.
	I he confidence is reduced by: A block being within on error of historical underground workings due to extraction rate.
	 A block being within 20m of historical underground workings due to uncertainty with
	historical survey of the workings and georeferencing of mine plans.
	• A block is in an area where structure dip is greater than 20° due to proximity to large faults.
	Faulting can impact coal thickness and quality and some faults are poorly constrained.
	\circ A block lying within an area with thin seams resulting in uncertainty of geological
	continuity. Where a seam is thin or is splitting, a small change in thickness can have a
	large impact to reported coal tonnages and qualities.
	• A block being within an area close to a possible erosional 'washout' of Morley coal as
	Indicated by historical underground mine plans and extents.
	 A DIOCK IS LESS THAT ZITI DELOW THE MODELLED REGIONAL UNCONFORMITY DETWEEN BEAUMONT AND Morley formations due to uncertainties in unconformity surface topology.
	Essentially in an area that is not affected by the above conditions, a distance to pearect complete
	of less than 75m would be classified as Measured less than 120m is classified as Indicated and
	less than 300m would be classified as Inferred.

Criteria	Commentary
Audits or	• Previous iterations of the model were reviewed by BRL geological and mine engineering staff.
reviews	 The currently reported model has been reviewed by the Competent Person.
Discussion of relative accuracy/ confidence	 The Competent Person has reviewed the Coal Resource estimates and has visited the New Brighton project area. The Competent Person has examined the methodology used to estimate the resources and reserves and is satisfied that the processes have been properly conducted. The estimation methodology is generally in accordance with industry practice and the estimates can be regarded as requirements under the JORC 2012 code. Statistical comparisons between the resource block model and the coal quality data set have been carried out and are within expected ranges. Techniques utilised include QQ plots and probability plots.



Figure 1: Location of New Brighton Project



Figure 2: Regional Geology



Figure 3: Figure showing coal rights, and optimised pit shell used for reasonable prospects test for reported resources



Figure 4: Location of drilling within Coal Resource area



Figure 5: Location of historical mine workings. Note: recent opencast mined areas are not shown



Figure 6: Beamont Seam resource classification



Figure 7: Beaumont Formation coal floor contours



Figure 8: Beaumont Formation full seam cumulative thickness isopachs



Figure 9: Beaumont Formation full seam ash isopachs



Figure 10: Beaumont Formation full seam sulphur isopachs



Figure 11: Morley Seam resource classification



Figure 12: Morley UM1 seam coal floor contours



Figure 13: Morley Formation full seam cumulative coal thickness isopachs



Figure 14: Morley Formation full seam ash isopachs


Figure 15: Morley Formation full seam sulphur isopachs



Figure 16: New Brighton Seam resource classification



Figure 17: New Brighton (ON2 seam) coal floor contours



Figure 18: New Brighton Formation cumulative coal thickness isopachs



Figure 19: New Brighton Formation full seam ash isopachs



Figure 20: New Brighton Formation full seam sulphur isopachs

JORC Code, 2012 Edition – Table 1 Report for Takitimu Mine as of 30 June 2023

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	 The Takitimu Mine Resource Model covers the Takitimu, Coaldale and Black Diamond pits. The Ohai Coalfield of Western Southland is a historical mining district, with mining beginning in 1879. Multiple campaigns of data acquisition have been conducted in the Ohai Coalfield over the past
	 century. A combination of open-hole (OH), Reverse Circulation (RC), and cored drilling techniques have been used. Extensive logged and sampled trenching (channel sampling) has also been used.
	 employed. Modern exploration campaigns include data from 2006: 38 RC hammer drillholes. 41 NO (47.6 mm care diameter) RC blade drillholes.
	 23 wash drilled (OH) drillholes. 137 HQ/PQ (63.5/85 mm core diameter) Triple Tube Core (TTC) cored holes. 283 logged channel samples and trenches.
	 Historical drilling includes: 35 drillholes drilled between 1944 and 1962. 14 drillholes completed in the 1980's
	 No downhole wireline geophysical data is available for these drillholes. Recent drilling has aimed to infill areas to improve resource confidence and to test the reliability of historical data. Drilling has concentrated on areas deemed closer to production.
	 Downhole wireline geophysical logs are available for 79 of the recent drillholes. Recent exploration drillholes were ordinarily geophysically logged if drillhole conditions and operational constraints permitted. The standard quite of tools run includes density, dis material
	 In rod density logs have produced a reliable trace for use in coal seam correlation and depth
	adjustment and is used to correlate coal seams, to confirm depths and thickness of coal seams and to validate drillers' logs. Downhole wireline geophysics was also used to accurately calculate core recovery rates across coal intersections.
	 RC drillholes drilled in 2009-2010 and 2020 were geophysically logged for natural gamma with an Auslog Model A051 combination natural gamma/single-point resistivity/spontaneous potential sonde (43 mm diameter). Calibration method used a gamma test source jig, model P6721
	 Diamond drillholes were geophysically logged for density with a 9034 sidewall density tool. The tool was calibrated for use in 9239 using a concrete block and water tank.
	 Outcrop trench and channel samples provide a significant proportion of the sample dataset. Coal seam thickness and partings between coal seams were measured vertically. Trench data is entered into the drilling database in a form that replicates a drillhole at that location.
Drilling techniques	 All Bathurst Resources Limited (BRL) managed drilling campaigns have utilised the following drilling methods: Full PQ TTC.
	 Full HQ TTC. Combination OH / TTC. 133 mm RC.
	 Historic drilling techniques include: HQ TTC Rotary wash, fishtail bit. All drillholes (with the exception of three geotechnical drillholes) were drilled vertically.
Drill sample	 Channel sampling of faces is utilised extensively at the Nightcaps projects. Core recovery was measured as the length of core recovered divided by the length of driller's

Criteria	Commentary
recovery	run and noted by the core logging geologist. If recovery of coal intersections dropped below
	90%, the drillhole required a re-drill.
	• Mean total core recovery over the recent drilling campaigns was 97.3%, with core recovery of
	coal at 98.8%.
	• Where small intervals of coal were lost, and geophysical logging indicated strongly that coal
	was lost, raw ash values were estimated using the results of overlying and underlying ply
	samples and the relative response of the downhole density trace.
Lorging	Little core recovery data is available for historical drillinoles.
Logging	 BRL has developed standardised core logging procedures (BRL Coar Logging Procedures), and all core logging completed by BRL has followed these procedures.
	All recent drill core has been deologically and deotechnically logged by logging deologists
	under the supervision and guidance of experienced exploration and geotechnical geologists.
	• All drill core was photographed prior to sampling. Depth meter marks and coal ply intervals
	were noted on the drill core in each photograph.
	• Downhole wireline geophysical logs were used to aid core logging and to ensure true downhole
	depths were recorded where applicable.
Sub-sampling	• For all exploration data acquired by BRL, an in-house detailed sampling procedure was used
techniques	(BRL Coal Sampling Procedures). Sampling and sample preparation are consistent with
preparation	internationally accepted coal sampling and sample preparation methodologies.
	Drill core ply samples include all coal recovered for the interval of the sample. Core was not cut ar below. Div sample, intervals were senerally 0.5m in length, while a distant divide this sample.
	or haived. Ply sample intervals were generally 0.5m in length, unless dictated by third split of
	seam quality
	 For historical data, sample preparation processes are unknown. No historical drillhole coal
	quality results were used for Mineral (Coal) Resource estimation.
	• Trench samples were taken representatively from excavated and cleaned outcrop, preventing
	sampling of weathered coal and other contamination of the sample. Sample intervals were
	measured vertically and were generally 0.5m or less in length, however thicker sample
	intervals of up to 4m in length were used for thick coal seams. No field sample duplicates have
	been taken or analysed. Sample sizes generally aim to be at least 1kg of coal per 0.5m length
	• All diamond core samples and RC chin samples were collected as soon as practicable after
	drilling bagged and dispatched to the SGS New Zealand Limited (SGS) minerals laboratory in
	Ngakawau, where they were crushed and split.
	• Some grade control drillholes and channel samples have been analysed at the on-site
	laboratory for raw ash and total sulphur using standards in accordance with ISO 17025
	requirements for laboratory practices.
Quality of	• All coal quality testing completed for BRL has been conducted by either SGS or CRL Energy
assay data	Ltd (CRL) and both are IANZ accredited laboratories.
tests	SGS have used the following standards for coal quality testing:
	$\circ \text{Proximate analysis (ASTM 7582).}$
	 Asin (ISO 1177). Volatile Matter (ISO 562)
	 Inherent Moisture (ISO 5068).
	 Total Sulphur (ASTM 4239-04A).
	 Calorific Value (ISO 1928).
	 Loss on Drying (ISO 13909-4).
	 Relative Density (AS 1038.21.1.1).
	• CRL completed much of the assay test work for samples collected prior to BRL taking over the
	projects.
	URL used the following standards for their test work: Inhoropt Moisture (ISO 117221)
	= Ash (ISO 1171)
	 Volatile Matter (ISO 562).

Criteria	Commentary
	 Calorific Value (ISO 1928). All analysis was carried out and reported on an air-dried basis (adb) unless stated otherwise. Some coal quality testing completed for BRL on in pit channel samples and grade control drillholes used in the resource model has been conducted by the onsite laboratory, which uses the following standards in accordance with ISO 17025 requirements laboratory practices: Sample preparation is carried out as per ISO 5063/2 brown coal and lignite's – Principles of sampling. All coal is crushed to -3mm and a minimum of 650g of coal is extracted using a rotary divider. Coal is dried, the loss on air drying determined and ground to -212 microns (µm) in a ring mill. Coal is representatively spot sampled into a lab sample bottle and is then tested for inherent moisture, ash, and sulphur. LOD carried out as per ISO 5068-1. Inherent moisture is carried out using the ISO 5068-2. Ash has been analysed using the standard ISO 1171-1997. Duplicate results from the onsite laboratory are compared to results tested at SGS; results are comparable between the two laboratories, however some differences between inherent and total moisture have been observed. No Total or Inherent moisture results from the onsite lab are used for resource estimation, however ash and sulphur (ad) results from three grade control drillholes and 190 channel samples have been used for grade estimation. SGS reviewed onsite sampling and calibration procedures in 2013 as part of the initial setup of the laboratory in 2009. Reviews and audits are completed routinely by an external party. Onsite coal sampling procedures were audited and tested by consultant Trevor Daly Consulting (TDC) in 2010, 2013, 2016 and in 2019 by SGS.
Verification of sampling and assaying	 Sample coal quality results have been cross-referenced and compared against lithology logs and downhole geophysical data. Results are also inspected by experienced geologists and compared with expected values utilising known coal quality relationships for the Nightcaps Coalfield. Anomalous assay results were investigated, and where necessary the laboratory was contacted and a re-test was undertaken from sample residue. Six twinned drillholes have been drilled at the project, but no field duplicate trench samples have been conducted. In pit channel samples have been collected for grade control purposes. These have been used to cross-validate historical OH/TTC and modern RC drilling and to provide an increased density of coal quality data for modelling and estimation in close proximity to active mining areas. Laboratory data is imported directly into an acQuire database, with no manual data entry at either the laboratory or BRL. Coal quality results files are securely stored on a backup server. Once validated, drillhole information is 'locked' in an acQuire database to ensure data is not inadvertently compromised. Geophysical data has been used to establish coal seam thickness and depths on the margins of coal seams in RC drillholes, where sampling uncertainty inherent in RC drilling made coal sample and intersection depths less reliable. In 2014, BRL commissioned a series of duplicate samples to be completed by CRL. These samples have repeated tests performed by SGS on a subset of ply samples selected at random. The results are shown in Figure 1.



Criteria	Commentary
Data spacing and distribution	 Drillhole spacing for the Black Diamond pit area has been calculated by finding the radius required to fill the total area of the project divided by the number of drillholes within that area. The project has an average drillhole spacing of approximately 100m and channel sampling reduces this average sample spacing to approximately 70m. Drillhole spacing is not the only measurement used by BRL to establish the degree of resource uncertainty and therefore the resource classification. BRL uses a multivariate approach to resource classification which is explained further in Section 3. The current drillhole spacing is deemed sufficient for coal seam correlation and grade estimation purposes. Geostatistical analysis has been undertaken on the Nightcaps Project dataset. Ranges derived from variograms results have been utilised in the grade estimation search parameters. The samples database is composited to 0.5m sample length prior to grade estimation. Composite samples are not weighted. Any samples with composited length of less than 0.1m are not utilised during estimation. Compositing starts at the top of seam and small samples are not distributed or merged.
Orientation of data in relation to geological structure	 All recent exploration drilling has been completed on a vertical orientation. The exception to this is three diamond drillholes that have been drilled with a dip of 45° and azimuth of 286°. These drillholes were drilled to assess the geotechnical properties of the western Coaldale highwall and were intended to intersect a fault. All historical drillholes are vertical. Those without deviation plots are assumed to be vertical. Any deviation from vertical is not expected to have a material effect on geological understanding due to the shallow nature of deposit. Average drillhole depth in the dataset is 47.7m, with the deepest coal intersection being at a depth of 86.4m. Most of the deposit presents a shallow seam dip between 3 and 15° although some localised steep dips do exist near fault margins. Vertical drilling is the most suitable drilling method of assessing the coal resource in the Nightcaps Coalfield.
Sample security	 Rigorous sample preparation and handling procedures have been followed by BRL. Coal samples are taken and recorded from drill core, sealed in plastic bags, and securely stored prior to being dispatched to the laboratory for analysis. It is not considered likely that individual coal samples face a risk of theft or sabotage as coal is a bulk commodity with little value for small volumes of coal from drill core.
Audits or reviews	 Golder Associates (NZ) Limited (Golder) and BRL have reviewed the geological data available and consider the data used to produce the resource model is reliable and suitable for the purposes of generating a Coal Resource estimate to the extent that the Coal Resource estimate has been classified. BRL senior geologists have undertaken audits of the sample collection and analysis processes.

Section 2 Reporting of Exploration Results

Criteria	Commentary						
 Mineral tenement and land tenure status The Takitimu Mine resource model includes two coal permits and a privately held land pa with coal rights attached that are wholly owned by Bathurst Coal Ltd (BCL). Exploration Permit (EP) 60642 covers an area of 690.51 hectares (ha) and contains a por of the resource area. Mining Permit 53614 (MP 53614) covers the Black Diamond pit and is entirely included wi the bounds of the resource model. 						and parcel s a portion ided within	
	Permit/Rights Operation Mining Type Expiry						
ExplorationPermitOhaiN/AN/A60642					N/A		
Mining Permit 53614 Coaldale Opencast 04 Jun 2032							
		Private Coal Lot 1 DP 4505		Coaldale/Takitimu	N/A	N/A	

Criteria	Commentary								
	 Royalties are paid to the Crown on coal mined from within MP 53614 and an Energy Resources Levy is paid to the Crown on all coal extracted from private and Crown owned coal. A deferred consideration payment of 5% of gross sales revenue at mine gate is payable on all coal produced by the company in the Ohai area. The deferred consideration is for the acquisition of the New Brighton EP 40625 as announced in March 2015. An access arrangement (AA) is in place to access a small parcel of private land in the southern portion of MP 53614. There are no royalty payments included as part of this agreement. An AA is in place to access parcels of private land in the northeastern portion of MP 53614. There are royalty payments included as part of this agreement. There are royalty payments included as part of this agreement. There are royalty payments included as part of this agreement. There are royalty payments included as part of this agreement. There are royalty payments included as part of this agreement. There are royalty payments included as part of this agreement. The royalty is adjusted to the Price Producer Index (PPI) and Labour Cost Index (LCI). BRL owns the remaining area of the Black Diamond opencut pit. BRL has a lease agreement with the Southland District Council over a large land parcel covering the Takitimu pit area and mine infrastructure. The lease includes rights to explore for, extract and sell coal from within the parcel. Figure 7 and Figure 8 show BRL's land ownership and access, and mineral rights within the project area. 								
Exploration done by other	All explo	pration post 2	011 has beer	n conducted	d by BRL.	on modern	ovaloratio		otod
parties	• Before 2 by CRL	for Takitimu (Coal Limited	(TCL) prior	to the purc	hase by BR	L.	in was condu	cieu
	Historica centres	al data has b	een traced b	ack to orig	inal reports	and logs h	eld at Arc	hives NZ stor	age
	Historica	al data has	been thorou	ghly invest	igated for	reliability a	nd quality	and, where	the
Geology	Integrity The proi	of the data is	s limited, it ha	s been om Coalfield N	itted from th lew Zealan	ne resource d	model.		
	 The Ohai Coalfield is a fault bounded basin containing Cretaceous sub-bituminous coal. The defined Coal Resource is contained within the Morley and Beaumont formations. The Cretaceous Ohai Group contains three formations – the Wairio, New Brighton and the Morley Formations. The Eocene Nightcaps Group contains two formations – the Beaumont and Orauea 								
	Formatio	ons.				I Parla i		de la constante	
	 The two groups are separated by an unconformity, clearly distinguishable by micro-flora. Most of the historical production has come from seams in the Morley Formation, which tend to contain higher quality coal. Coal seams are faulted and folded into complex structures. Coal thickness and extent varies as coal seams are often lenticular and split or washed out by fluvial sand channels and syn-depositional faulting and folding are indicated. Morley Coal Measures of the Ohai Group have a combined vertical seam thickness which averages 8.2m; however, 23m thick seams have been recorded. 								
	Beaumont Coal Measures of the Nightcaps Group have a combined vertical seam thickness which averages 0.5m; however, 7m thick seams have been recorded. Coal ranks from sub-								
	 bituminous C-B rank. The Nightcaps Group Beaumont Formation Coal Measures are conformably overlain by Eocene Orauea Formation mudstone. Coal rank ranges from sub-bituminous A to bich volatile bituminous C 								
Drillhole	Table 1: Sho	owing summa	ary of drilling	data availal	ole within th	ne model ar	ea	1	
Information	Years	Agency	Range of Collar ID	# Holes	Drilling Method	# Holes in structure Model	# Holes in Quality Model	Geophysics Available	
	1944-1947	Various	d133 - d144	9	unknown	3	0	0	
	~1955	Various	236-245, 247-250, 255, 372, 376	17	unknown	13	0	0	
	1962	Black Diamond Collieries	280A - 285A	6	WD	6	0	0	

Criteria	Commentary								
	1981 - 1984	Coal and Energy NZ Ltd	SC101 - SC111	11	Wash drilled, core	10	10	0	
	1989	Downer Mining	DMDH01 - DMDH03	3	Wash drilled	0	0	0	
	2006	Takitimu Coal Ltd	NC001 - NC012	14	HQ Triple Tube, OH	12	7	14	
	2007	Takitimu Coal Ltd	T001	1	Trench	1	0	0	
	Mar 2009	Takitimu Coal Ltd	NC013 - NC027	15	HQ Triple Tube, RC hammer, RC blade	15	15	11	
	Feb 2010	Takitimu Coal Ltd	NC028 - NC044	17	RC hammer	16	12	16	
	2010	Takitimu Coal Ltd	T002 - T004	3	Trench	2	0	0	
	Aug 2010 - Sep 2010	Takitimu Coal Ltd	NC045 - NC060	16	Triple Tube Core, OH, RC hammer	11	9	8	
	2012 - 2014	Takitimu Coal Ltd	NC061 - NC078, NC086 - NC117	50	Triple Tube Core, Open holed	48	29	13	
	2013	Takitimu Coal Ltd	T005 - T011	7	Trench	7	3	0	
	2013 - 2014	Takitimu Coal Ltd	CS001 - CS107	107	Trench	93	86	0	
	2015	Takitimu Coal Ltd	BKDT001 - BKDT057	56	Trench	11	6	0	
	2014 - 2020	Takitimu Coal Ltd	CS107- CS222	109	Trench	102	101	0	
	2015 - 2020	Takitimu Coal Ltd	NC130- NC263	127	Triple	127	80	23	
Data	 Exploration drilling results have not been reported in detail. The exclusion of detailed exploration data from this document is considered to not be material to the understanding of the Table 1. The period out off for each (adb) for construction the Table 1. 								
aggregation methods	 at 35%. The resource model is built as a block model with 0.5m block thicknesses for coal. Coal ply data is used to grade estimate the block model. 								
	Coal ply	• Coal ply data is composited into 0.5m samples for estimation. No weighting is used in the							
	 compositing. Some composite samples have been analysed by SGS as full seam minable sections for additional attributes including ash constituents, forms of sulphur, ash fusion temperatures, and ultimate analysis. 								
Relationship	All explo	 All exploration drillholes have been drilled vertically, and the coal seams are generally gently 							
between mineralisation widths and intercept lengths	 dipping. Reported and modelled seam intercept thickness is representative of the true seam thickness. 								
Diagrams	 Diagrams can be found in the Appendix A for each of the following: Location map. Regional Geology plan. Plan showing coal ownership rights. Plan showing access arrangement and land ownership status. Plan showing exploration drillholes. Plan showing historical mine workings. Plan showing Morley Coal Resource classification areas. Plan showing Morley Coal Reserve classification areas. 								

Criteria	Commentary						
	 Plan showing Beaumont Coal Resource classification areas. 						
	 Plan showing Beaumont Coal Reserve classification areas. 						
	 Plan showing Beaumont Formation coal seam floor contours. 						
	• Plan showing Beaumont Formation full seam cumulative thickness isopachs.						
	 Plan showing Beaumont Formation full seam ash isopachs. 						
	 Plan showing Beaumont Formation full seam sulphur isopachs. 						
	 Plan showing Morley Formation coal seam floor contours. 						
	 Plan showing Morley Formation full seam cumulative coal thickness isopachs. 						
	 Plan showing Morley Formation full seam air dried ash isopachs. 						
 Plan showing Morley Formation full seam air dried sulphur isopachs. Cross-section view through the deposit. 							
Balanced	• No exploration results are being presented in this Table 1, rather this document is focused on						
reporting	an advanced project that has been defined by geological models with associated Coal						
	Resource estimates completed.						
	• The exclusion of this information from this report is considered to not be material to the						
	understanding of the deposit.						
Other	Exploration drilling results have not been reported in detail.						
substantive	• The Black Diamond pit is in commercial production. Production in the Coaldale pit is						
exploration	completed with all coal resources mined out and the area is currently being backfilled.						
data	• Substantial ash constituent data has been compiled on coal samples and coal composite						
	samples for the Coaldale and Black Diamond pit areas.						
Further work	• No further work is currently planned on the Black Diamond mining area, however some further						
	geological investigations may take place proximal to the current mining infrastructure.						

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	 BRL utilises an acQuire database to store and maintain its exploration dataset. All historical and legacy datasets have been thoroughly validated against original logs and results tables. Where reliability of the data is poor, the data is excluded from the the resource modelling dataset.
	 The acQuire database places explicit controls on certain data fields as they are entered or imported into the database, such as overlapping intervals, coincident samples, out of range sample values, standardised look-up tables for logging codes.
	• Manual data entry of coal quality results is not required as results are imported directly from laboratory results files.
	The database is automatically backed up on an offsite server.
Site visits	• Eden Sinclair (the Competent Person) has visited the site on numerous occasions over the past 10 years conducting multiple exploration programmes and is familiar with the site.
Geological interpretation	• Golder has reviewed the modelling processes in use by BRL to develop their resource model and Coal Resource estimates.
	• Golder has confidence in the methodologies used by BRL for geological modelling and the interpretation of the available Takitimu Mine data. Confidence varies for different areas, and this is reflected in the resource classification.
	• Dry, mineral matter and sulphur free volatile matter is the principal quality used to differentiate and correlate Beaumont and Morley coal seams.
	• BRL uses a multivariate approach to resource classification, which considers a number of variables.
	• The competent person considers the quantity of geological data sufficient to estimate Coal Resources.
	• Uncertainty surrounds the historic underground and opencast workings, both in the quality and quantity of coal extracted and the surveying of underground workings. This is reflected in the

Criteria	Commentary						
	resource classification.						
	• Some residual uncertainty of quality and confidence of historic drilling data remains despite						
	thorough evaluation of the historic logs and drill locations.						
Dimensions	• Several coal seams are present in two main seams in the Beaumont Formation and up to four						
	in the Morley Formation. The total combined coal thickness varies from less than 1m thick up to						
	25m locally.						
	The model covers an area 2.4km in width by 3.6km in length.						
	• The deposit resource consists of the Black Diamond pit which covers an area approximately						
	80Ha.						
	• The deposit is bounded by the Nightcaps Fault to the northeast and the Fern Fault to the						
	northwest.						
Estimation	• All available exploration data has been validated and, where reliable, has been used to develop						
techniques	a 3D geological block model for Coal Resource estimation and classification.						
	• All exploration drilling data is stored in an acquire database and exported to a Maptek						
	Vulcan ¹ ^m (Vulcan) drilliole database.						
	 Interpretive design data is stored within vulcan in various layers. Due to the presence of two unconformable coal bearing formations, the model is sub divided. 						
	• Due to the presence of two uncontonnable coal bearing formations, the model is sub-divided into two separate formation domains for modelling (Morley and Beaumont). The Morley coal						
	seams are truncated by the overlying unconformable Beaumont coal measures						
	The model is domained further into four fault blocks (Basement, Black Diamond, Coaldale and						
	South) using the large Trig E, Black Diamond, Fern, and the Tinker/Nightcaps faults as						
	bounding surfaces.						
	Each domain is modelled for structure and grade separately.						
	• A horizons definition was developed and used to define the coal seams to be modelled in the						
	stratigraphic modelling process.						
	 Vulcan 12 is used to build the structure model. Grid spacing is 10m x 10m. 						
	• Maptek's Integrated Stratigraphic Model module is used to produce the structure model. The						
	'Hybrid Method' was used to develop the structure model. This method triangulates a reference						
	surface and then stacks the remaining horizons by adding structure thickness grids. Thickness						
	grids are created using an inverse distance (ID) modelling algorithm. Design data from other						
	Nonzons is incorporated into the initial grid structure. Modelling peremeters for the two structurel modelling person are as follows:						
	 Modelling parameters for the two structural modelling passes are as follows. Beaumont Formation - Reference and surface (NR21 roof) by Hybrid Stacking: 						
	 Beaution: Formation - Reference grid surface (NB2 Froor) by Hybrid Stacking. Method is Triangulation 						
	\circ Trend Order is 1 (Linear).						
	• Smoothing is 9.						
	\circ The maximum triangle length is 1,500m.						
	 Surfaces are splined. 						
	 Beaumont Formation - Reference grid thickness modelling by Hybrid Stacking: 						
	 Method is Triangulation. 						
	 Trend Order is 0 (Horizontal Planar). 						
	• Smoothing is 9.						
	• Search Radius is 1,500m.						
	 Surfaces are splined. Moreover Example and Surfaces (LIM211 roof) by Hybrid Stacking: 						
	 Money Formation - Reference grid surface (OW2111001) by Hybrid Stacking. Method is Triangulation 						
	\sim Trend Order is 0 (Horizontal Planar)						
	 Smoothing is 9. 						
	 The maximum triangle length is 1.500m. 						
	 Surfaces are splined. 						
	 Morley Formation - Reference grid thickness modelling by Hybrid Stacking: 						
	 Method is Triangulation. 						
	 Trend Order is 1 (Linear). 						
	 Smoothing is 9. 						

Criteria	Commentary
	 Search Radius is 1,500m. Surfaces are splined. Structure grids are checked and validated visually before being used to construct the resource block model
	 Vulcan is used to build the block model and to estimate grade. The process is automated using a Lava script. The stratigraphic structure grids for each domain, along with end of month site survey combined with LiDAR topography surface, Beaumont unconformity surface, and other mining related surfaces for Black Diamond, Coaldale and Takitimu pit areas were used to build the block model. The block dimensions are constructed at 10m x 10m. Vertical thickness for coal
	 blocks is 0.5m. Block Grade estimation is performed in Vulcan using the Tetra Projection unfolding methodology.
	 The Beaumont seams and Morley seams are estimated in the three fault domains. Proximate and sulphur coal qualities are estimated on an air-dried basis. Ash, moisture, volatile matter, and are estimated simultaneously. Calorific value is estimated on a dry ash free basis (daf) and converted to an air-dried basis based on the block ash and moisture estimates. This enables changes in coal rank across the area to be accurately modelled.
	• Sulphur is estimated using a different search ellipse as indicated by geostatistics. Variability in sulphur may be related to post depositional fluid flow in NE-SW trending fault structures. Sulphur is shown to be elevated in close proximity to these fault zones.
	• Geostatistics of the coal quality dataset has been examined to determine any spatial relationships and define the estimation search parameters for each coal seam quality and thickness. The maximum search radius is set to the maximum range of influence found in the semi-variogram for ash dependent variables and for sulphur.
	 Grade estimation is computed using an inverse distance squared function for ash dependent qualities, and inverse distance squared function for sulphur.
	 Various methods have been used to check the validity of the block estimation. This includes manual inspection of the model, Quantile Quantile (QQ) plots of the model qualities vs coal quality database and other comparison tools.
	 Mining reconciliation has been completed on the resource model to check model accuracy within the mining area. To date the results are within the bounds of expected variability based on resource classification used with mining factors applied. No other bulk reconciliation has been completed.
	 Resource tonnages within the model have been discounted where the resource falls within historical underground workings areas.

The primary underground mining method utilised historically in the Nightcaps area is bord and pillar mining. Extraction rates using this type of mining generally reduce as seam thickness increases. Historic extraction rates are estimated using mining extraction reports, and work completed by Yardley *et al.* 1986. Ug_extract = (-0.042 * thickness + 0.640)*100.

- Previous opencast mining was also undertaken in the Takitimu Mine area.
- The extraction rates used to discount coal tonnages in the resource model are as follows:

Mining Method	Extraction Rate
Underground workings	Morley coal discounted at rate shown in the equation above with a minimum rate of 20% extracted, and maximum of 55% extracted. Beaumont coal discounted by 10% due to collapsed ground
Opencast	100% of all coal seams

• Reconciliation data from the Black Diamond pit supports these extraction rates on a medium to long term basis, however for the FY23 year reconciliation indicates these historic extraction

Criteria Co	mmentary
•	factors may require review. No acid mine drainage occurs at the Takitimu Mine due to the non-acid forming lacustrine depositional environment of the coal measures and therefore acid generation models have not been completed.
Moisture •	Moisture, both on an air-dried and total moisture basis, is estimated into the resource model from the sample database after using a cut-off envelope to cut samples that vary excessively from the norm. Natural variability in bed moisture is amplified by excessive variability in the sampling process and laboratory testing methods. The cut-off envelope used was derived from ± 0.67 times the standard deviation of the dataset. Figure 2 and Figure 3 show the envelope used for Morley and Beaumont coal.
Fig	Beaumont Coal Ash - Moisture Envelopes



Figure 3: Inherent moisture and total moisture cut-off envelopes for Morley coal

- This technique compares favourably to the Run of Mine coal sampling data from the Takitimu Mine and provides a more accurate representation of coal bed moisture than using a single value for total moisture across the deposit and estimating qualities on a dry basis.
- Resource tonnages are reported using natural bed moisture, calculated using the Preston and

Criteria	Commentary
	Sanders equation.
Cut-off parameters	 Structure grids have been developed based on a 35% ash cut-off. Some higher ash intervals are retained within the coal quality dataset to allow simplification of the seam model. No lower ash cut-off has been applied. Moisture data has an upper and lower cut-off applied as described in the previous section. Coal resources are reported down to a seam thickness of 0.5m (one block) with an ash cut-off of 25%. Resources have been defined as economic by using a Lerchs-Grossman optimised pit shell using budgeted mining costs and contracted coal sales values. The 1.0 Revenue Factor (RF) shell from the optimisation has been used. No resources have been reported outside of this pit shell. This optimised pit shell is used to determine Reasonable Prospects for Eventual Economic Extraction (RPEEE).
Mining factors or assumptions	 The Black Diamond open pit is in commercial production utilising truck and excavator mining. Long term coal sales contracts are tied to inflation (Labour Cost Index, Producers Price Index) for the mining industry. No other mining factors such as mining losses and dilutions have been applied when developing the resource model.
<i>Metallurgical factors or assumptions</i>	 No metallurgical assumptions have been applied in estimating the resource. Currently no wash plant is used at the Takitimu Mine. Run-of-Mine (ROM) coal produced is processed through a crushing/screening plant where losses are minimal.
Environmental factors or assumptions	 No environmental assumptions have been applied in developing the resource model. The Black Diamond pit is currently in commercial production and there is a large area available for waste disposal. Overburden has been shown to be non-acid forming.
Bulk density	 A total of 89 relative density (air-dried) sample results are available for the Morley coal, and 38 samples are available for Beaumont coal. The samples are distributed throughout the Takitimu Mine area and the sample set covers a range of ash values from 3.8% to 50.3%. From this dataset an ash-density curve was generated with a coefficient of determination of R²=0.87 for Morley Coal, and R²=0.94 for Beaumont coal (Figure 4).



Figure 4: Graph showing Ash (adb) - Relative Density (adb) relationship for both Morley and Beaumont coal

• Air dried relative density (RD_ad) is calculated using the air-dried block ash (Ash_ad) value

Criteria	Commentary
	and the derived density equations.
	Morley coal: RD_ad = (0.00006 * Ash_ad ²) + (0.0065 * Ash_ad) + 1.3595
	Beaumont coal: RD_ad = (0.00009 * Ash_ad ²) + (0.005 * Ash_ad) + 1.3085
	 An in situ bulk density (RD_ps) value is computed using the Preston Saunders method;
	RD_ps = (RD_ad * (100 – mo_ad)) / (100 + RD_ad *(mo_ar - mo_ad)- mo_ar)
	Where RD_ad is relative density on an air-dried basis, mo_ad is inherent moisture, and mo_ar
	is total bed moisture.
	I he Black Diamond pit is in commercial production and reconciliations have confirmed density
Classification	
Classification	BRL classifies resources using a multivariate approach.
	 Coal resources have been classified on the basis of geological and grade continuity balanced by relative upportainting surrounding bioterical upderground sytraction, bioterical fire affected
	areas and provimity to faults and unconformities
	 Closely spaced drillboles with valid coal quality samples (point of observation) increase the
	confidence in resource assessments
	The confidence is reduced by:
	• A block being within an area of historical underground workings due to extraction rate
	uncertainty.
	• A block being within 20m of historical underground workings due to uncertainty with
	historical survey of the workings and georeferencing of mine plans.
	 A block lying in an area where structure dip is greater than 20° due to proximity to large
	faults. Faulting can impact coal thickness and quality.
	 A block lying within an area with thin or splitting seams resulting in uncertainty of apple size leasting in this with an area with thin or splitting seams result above in this langes
	geological continuity. Where a seam is thin or is splitting, a small change in thickness
	\sim A block being within an area close to a possible erosional 'washout' of Morley coal as
	indicated by historic underground mine plans and extents
	 A block lying within an area identified to be affected by historical underground mine fires.
	• A block is less than 2m below the modelled regional unconformity between Beaumont
	and Morley formations due to uncertainties in unconformity surface topology.
	• Essentially, in an area that is not affected by the above conditions, a distance to nearest
	sample of less than 75m would be classified as Measured, less than 150m is classified as
	Indicated and less than 400m would be classified as Inferred.
	• Figure 11 and Figure 13 present the resource classification polygons for Morley and Beaumont
	Coal. Economic resources are reported from within these polygons provided they lie within the
	Lerchs-Grossman optimised opencast pit shell.
Audits or	• Previous iterations of the model were reviewed by BRL mine engineering staff and the
reviews	Domestic Resources Manager as part of the mine planning for the Black Diamond pits.
Discussion of	The currently reported model has been reviewed by the Competent Person.
relative	 The Competent Person has reviewed the Coal Resource estimates and has visited the existing operations. The Competent Person has examined the methodology used to estimate the
accuracy/	resources and reserves and is satisfied that the processes have been properly conducted. The
confidence	estimation methodology is generally in accordance with industry practice and the estimates can
	be regarded as consistent with the requirements of JORC 2012.
	• Statistical comparisons between the resource block model and the coal quality data set have
	been carried out and are within expected ranges.
	• The Takitimu mine utilises the resource model modified to a reserve model for mine planning
	and scheduling. Production reconciliation for the Black Diamond production completed until
	June 2022 shows that ROM coal produced reconciles to within 10% of the expected coal
	resources defined by the model. Classification of mined coal in this period was split evenly
	between Measured and Indicated coal.

Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	 The Coal Resource estimates used are the Coal Resource estimates undertaken by the Competent person as outlined in Section 1-3. Drillholes are validated then coded to create a structural grid model using Vulcan ™ software by BRL. This structural model forms the framework that a 3D block model is created by BRL geologists. The model includes topography, seam structure and coal qualities used for in situ Coal Resource estimation. A 3D Resource Block model of topography, structure and quality are used for in situ Resource definition. Coal quality values are estimated into the block model by BRL. The model mining includes mining modifying factors including factors that account for previous surface and underground mining extraction and fires, coal recovery and economics. Coal Reserve estimates are for Takitimu Mine, a long-term operating site. Remaining Coal Reserves are within the active Black Diamond pit area, A decrease in the previously reported Takitimu Coal Reserves is primarily attributed to the following changes: Depletion by surface and stockpile mining. Mining modifying factors adjusted to account for lower recoveries following reconciliation for the Black Diamond pit previously worked underground areas in the UM2 seam.
Site visits	 Sue Bonham-Carter (the Competent Person) is a full-time employee of BCPA New Zealand Limited (BCPA), on secondment to BT Mining Limited, Ms. Bonham-Carter has over 20 years' experience working in New Zealand coalfields, including a term as General Manager of Resource Development January 2023 to July 2023 for BRL. Ms Bonham-Carter visited the site on several occasions during the period from 30 June 2022 to 30 June 2023.
Study status	 Takitimu is an operating mine with the Black Diamond pit currently in production. The reportable Coal Reserve is based on actual site performance, costs on the life of mine (LOM) plan and has determined a mine plan that is technically achievable and economically viable, and that material modifying factors have been considered.
Cut-off parameters	 Lerch Grossman techniques were applied using standard industry software (Whittle) to determine the economic pit extents, updated in December 2020. A maximum ash cut off of 25% (arb) is applied. Coal Reserves are only reported from the Beaumont and Morely seam horizons.
Mining factors or assumptions	 The Takitimu mining area has been operational since 2007, with the current Black Diamond pit starting in 2017. Costs and prices are derived from actual and budget. In 2018 a significant review of mining recovery factors was undertaken. Allowance was made in the reserves for coal to be contract washed offsite at the Ohai coal plant. Variable clean coal recovery factors were estimated for sections of the remaining Coaldale and Black Diamond pit areas. Recovery factors were based on the presence of coal workings and the presence of Beaumont sediment intrusions into Morley coal seams. Different mining loss is applied to the in situ coal for different areas of historic mining. Periodically, the ROM coal production is reconciled against depletion of the mining model. The FY23 reconciliation showed less coal produced than modelled from the same areas, specifically the UM2 seam package. The estimated underground extraction is calculated using the following formula = (-0.042 * mining_tk + 0.6400) The Takitimu Mine utilises small scale mining truck and excavator methods for waste and coal movement. The operations are supported by additional equipment including dozers, graders, loaders and water carts. Geotechnical parameters are based on geotechnical studies undertaken by BRL engineering staff, studies have been completed for active pit areas and a slope stability monitoring program in place.

Criteria	Commentary
	 Moisture Adjustments: Moisture is modified during both the mining and processing operations. In situ moisture is determined by the process described in Section 3 and is the base point for all moisture adjustments. Recoverable Coal Reserves are stated on a ROM moisture basis, as received by the processing plant. Marketable Coal Reserves are stated on a product moisture basis, as sold. Current mining methods require the following infrastructure; haul roads, drainage, pumps, sumps and ponds, coal stockpile areas, crushing and screening processing plant, coal load out and bins, weighbridge, workshop, offices, ablutions, and security and first aid. New infrastructure required is limited to water management and access such as sumps, drains and diversions as the mining progresses into new blocks.
factors or assumptions	 The ROM coal produced at Takitimu is crushed and screened on site prior to sale. A process recovery of 95% is used based on a processing reconciliation study. There is currently no coal washery. Product coal specifications include ash, sulphur, moisture and calorific value.
Environmental	 All mining approvals, consents, permits and licences are currently in place to operate the mine. Waste rock characterisation results show that the material is non-acid or metal producing, as such it does not require special placement requirements or procedures in the dumps. Disturbed areas are progressively rehabilitated to the specified end land use (primarily pasture) on completion of mining activities. Soil and vegetation is salvaged and either directly place on completed landforms or taken to a holding stockpile. There is a shortfall in topsoil available for rehabilitation (amount to be confirmed FY24). To cover the rehabilitation liability soil is being imported from offsite (just over 10,000 tonnes imported to date) and a spray on seed and mulch trial planned.
Infrastructure	 All necessary infrastructure is in place and operational for the current operation. Manpower and accommodation for labour is sourced from nearby towns and villages.
Costs	 All infrastructure is in place at Takitimu. The primary ongoing capital requirements are for equipment replacement, and this is included in the economic model. All operating costs were based on the Takitimu three-year budget estimates developed by BRL and include allowances for royalties and levies, commissions, mining costs, train loading and administration. A deferred consideration payment of 5% of gross sales revenue at mine gate is payable on all coal produced by the company in the Ohai area. An access arrangement (AA) is in place to access a small parcel of private land in the southern portion of MP 53614. There are no royalty payments included as part of this agreement. An AA is in place to access parcels of private land in the northeastern portion of MP 53614. There are royalty payments included as part of this adjusted to the Price Producer Index (PPI) and Labour Cost Index (LCI). Mine Rescue Levy, Energy Resources Levy, Crown Royalty, permit fees, FME carbon and land rates are applied as per appropriate NZ legislation prices at the mine gate. Customers pay for transport. Product specifications and penalties for failure to meet specification were applied.
Revenue	Prices are at the mine gate. Customers pay for transport.
Market assessment	 Product specifications and penalties for failure to meet specification were applied. Long term supply contracts are in place.
Economic Social	 Takitimu is an operating mine. The reported Coal Reserve is based on economic viability determined by BRL conducted cashflow analysis using actual site performance, costs, mine plans and BRL's long term contracts for sales and pricing. Detailed mine design and schedules are generated annually. This work includes identifying the mining sequence and equipment requirements. BRL have required approvals and key stakeholder agreements in place.

Criteria	Commentary
	• New Zealand is transitioning to low carbon future, some customers planning to reduce coal use. The mine life and economic assumptions are based on the coal reserve depletion, existing coal supply contracts and the BRL long term marketing plan based on an estimated decarbonisation schedule.
Other	• All mining projects operate in an environment of geological uncertainty. The Competent Person is not aware of any other potential factors, legal, marketing or otherwise, that could affect the operations viability.
Classification	 Classification of Coal Reserves has been derived by considering the Measured and Indicated Resources only. For the Takitimu operation, Measured Coal Resources are classified as Proved Coal Reserves and Indicated Resources classified as Probable Coal Reserves, as the mine is currently operating and the level of mine planning adequate. The Inferred Coal Resources have been excluded from the Coal Reserve estimates.
Audits or reviews	• Internal peer review and reconciliation by BRL of the Reserves estimate has been completed.
Discussion of relative accuracy/ confidence	• Annually, the ROM coal production is reconciled against depletion of the mining model. Accuracy and confidence of modifying factors are generally consistent with the current operation, there is uncertainty in estimation of underground extraction and fire losses in the UM2 seam.

Appendix A:



Figure 5: Location of resource



Figure 6: Regional Geology within the project area



Figure 7: Land areas that BRL holds coal ownership rights



Figure 8: Access arrangement and land ownership status of land parcels within the project areas



Figure 9: Location of drilling around Resource Area



Figure 10: Location of historic mine workings and areas of low confidence Note: Recent opencast mined areas are not shown.



Figure 11: Morley Coal Resource classification areas



Figure 12: Morley Coal Reserve classification areas



Figure 13: Beaumont Coal Resource classification areas



Figure 14: Beaumont Coal Reserve classification areas



Figure 15: Beaumont Formation coal floor contours



Figure 16: Beaumont Formation full seam cumulative thickness isopachs



Figure 17: Beaumont Formation full seam ash isopachs



Figure 18: Beaumont Formation full seam sulphur isopachs


Figure 19: Morley Formation coal floor contours



Figure 20: Morley Formation full seam cumulative coal thickness isopachs



Figure 21: Morley Formation full seam air dried ash isopachs



Figure 22: Morley Formation full seam air dried sulphur isopachs



Figure 23: Section view through the deposit. The Black Diamond Fault and backfilled Coaldale East pit are shown



Figure 24: Plan view showing the section through A-A'

JORC Code, 2012 Edition – Table 1 Report for Rotowaro 2023

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	 Multiple campaigns of data acquisition have been carried out in the Waikato Coalfield over the past century. Core sampling for coal quality sampling is undertaken using HQ (63.5mm core diameter) Triple Tube Coring (TTC) methods. Coal core samples are assigned unique identifiers and are dispatched to the laboratory with Chain of Custody tracking using paper, e-mail and/or acQuire software. Core recovery recorded in the field is validated and adjusted if required using downhole geophysical logs during core logging and sampling. Composite samples are generated from individual coal plies at the laboratory that are thickness weighted. A suite of downhole wireline geophysical logs, including density, natural gamma, calliper, sonic, dipmeter, acoustic scanner, and verticality were generally run in drillholes completed since 1989. All tools were calibrated on a regular and systematic basis. Natural gamma is the most widely used tool to confirm stratigraphic intersections, A small number of trench / channel samples have been completed at outcrops and active faces of the mine pit to improve data density and resource confidence. All depths are measured vertically.
Drilling	All analytical data has been assessed and verified before inclusion in the resource model.
techniques	 Tungsten drag bits have been used to wash drill fully open-holes (OH) and open-hole sections. TTC barrels have been used to recover coal core to established industry standards. Core diameters are HQ (63.5mm). No core has been orientated. In recent times, diamond drillholes have been infilled with air-core (AC) drilling. AC samples are logged onsite and provide coal seam roof and floor intercepts. Several historical drillholes are included in the resource modelling database for the areas modelled. Drillholes that have no verifiable location, lithology log or survey, or contradict adjacent reliable data, are considered unreliable and excluded from the Coal Resource modelling database.
Drill sample recovery	 Core recovery was measured as the length of core recovered divided by the length of driller's run and noted by the core logging geologist. In recent drilling campaigns, if recovery of coal intersections dropped below 90%, the drillhole required a re-drill. Standard industry techniques are employed for recovering core samples from HQ (63.5mm) core diameter TTC drillholes. For open-holes and open-hole sections, cuttings are sampled in intervals five metres in length or when there is a change in lithology and logged. Core is obtained by HQ (63.5mm core diameter) TTC techniques providing good core recovery, averaging 96% in recent drilling campaigns. On average, core recovery of target coal seams is 90%.
Logging	 Bathurst Resources Limited (BRL) has developed standardised core logging procedures (BRL Coal Logging Procedures), and all core logging completed by BT Mining has followed these procedures. All recent drill core has been geologically and geotechnically logged by logging geologists under the supervision and guidance of experienced exploration and geotechnical geologists. All drill core was photographed prior to sampling. Depth meter marks and coal ply intervals are noted on the drill core in each photograph. All TTC core samples are logged in detail (centimetre scale). Quantitative logging for lithology, stratigraphy, texture, hardness, Rock Quality Designation (RQD) and defects is conducted using defined material code types based on characterisation studies and mineralogical assessments. Colour and any other additional qualitative comments are also recorded. In conjunction with geological logging, drillholes are generally geophysically logged with a suite

Criteria	Commentary				
	 of tools being used (as described above). Downhole geophysical logs are analysed extensively and used to confirm and correct depth measurements on geological logs and sample locations. Validation and, if required, correction of the geological logs against downhole geophysical logs is undertaken to ensure accuracy and consistency. Verticality, caliper, density and natural gamma tools are checked regularly with standard calibration assemblies. Density calibrations are performed routinely with blocks of material of known densities (aluminium and/or water). A quality report is generated by the logging technician for each drillhole. Downhole geophysical logs were used to aid core logging. Downhole geophysics is used to correlate coal seams, to confirm depths and thickness of coal seams and to validate drillers' logs. Downhole geophysical logs were also used to inform recovery rates of coal cored and recovered. 				
Sub-sampling techniques and sample preparation	 For all exploration data acquired by B1, in-house detailed sampling procedures were used (BRL Coal Sampling Procedures). Sampling and sample preparation are consistent with internationally accepted coal sampling and sample preparation methodologies. No splitting of core is undertaken in the field or during sampling. Sample interval and core recovery recorded in the field by drillers is validated and adjusted if required using downhole geophysical logs during core logging and sampling. Sample selection is determined in-house according to the BRL Coal Sampling Procedures. Clean coal core has been sampled in plies 0.5m in length, depending also on core loss intervals and lithological variations. Sampling and sample preparation are consistent with international coal sampling methodology. Associated high ash coal intervals and partings were sampled separately to assess potential dilution effects where they are <0.5m thick. Composite horizons were determined by the ash yield of the plies. Ply thickness weighted compositing is conducted by SGS. Samples are placed into labelled bags to ensure proper Chain of Custody and transported to the laboratory for testing. The laboratory continues with the Chain of Custody requirements. Sample preparation is undertaken according to industry standards. PQ and HQ core diameter is considered to provide a sample mass to undertake the variety of raw coal tests together with composite testing when required. Where the testing regime requires additional sample volume, PQ (85mm) core size is employed. For surface trenches, coal samples of 2kg are obtained for each 0.5m ply interval approximately 				
Quality of assay data and laboratory tests	 SGS and Verum (Formerly CRL, with ACIRL Australia and Newman Energy subcontracted for specific tests) laboratories are used to undertake physical and chemical testing and use Industry Standards for all coal tests and systematic Quality Assurance/Quality Control (QA/QC) procedures for all work. Both laboratories hold accreditation by International Accreditation New Zealand (IANZ). The processes employed are considered appropriate for coal quality analysis. Results are reviewed in-house by a senior geologist to ensure the accuracy of the data. The laboratory has been inspected by the BT personnel. Tests include: Chemical Analysis Loss on air drying (ISO 13909-4). Inherent moisture (ASTM D 7582 mod). Ash (ASTM D 7582 mod). Volatile matter (ASTM D 7582 mod). Fixed carbon (by difference). Sulphur (ASTM D 4239). Swelling index (ISO 501). Calorific value (ISO 1928). Mean maximum reflectance all vitrinite (RoMax) (Laboratory Standard). Chlorine in Coal (ASTM D 2639). Gieseler plastometer (ASTM D 2639). Forms of sulphur (AS 1038 Part 11). 				

Criteria	Commentary
	 Ash fusion temperatures (ISO 540).
	 Ash constituents (xrf) (ASTM 4326).
	 Ultimate analysis (ASTM D3176-09).
	Rheological and Physical
	 Hardgrove grindability index (ISO 5074, ASTM D409-02).
	• Relative density (AS 10382111-1994).
	All analysis was undertaken and reported on an air-dried basis unless stated otherwise.
verification of sampling and	 All diamond core samples are checked, measured and marked up before being logged in detail.
assaying	 Every discrepancy between the measured length of the core and the driller's length marked on the core blocks is investigated. Discrepancies are resolved by geologists using downhole
	geophysical logs prior to sampling.
	• All drill core was photographed prior to sampling. Depth meter marks and coal ply intervals are
	noted on the drill core in each photograph.
	• Quantitative logging for lithology, stratigraphy, texture, hardness, RQD and defects is conducted
	using defined material code types based on characterisation studies and mineralogical
	assessments to the nearest centimetre. Colour and any other additional qualitative comments
	are also recorded.
	• Raw logs, as well as sample dispatch details, are recorded on paper then transferred into the acQuire database in accordance with BRL standards.
	• Assessments of coal intersections is undertaken by an internal or contract geologist, and by a
	senior geologist. Downhole geophysical logs allow confirmation of the presence (or absence) of
	coal seams and accurate determination of the locations of coal seam root and floor contacts.
	Downnoie geophysical density and natural gamma measurements are used to guide sampling
	 Downhole geophysical logs (dual density and gamma) are analysed and used to validate or
	correct geological and sample interval logs to ensure accuracy and consistency, where required
	 Sample sheets are developed in-house and receive a final check by the laboratory prior to
	testing. BRL/BT geologists with input from marketing technical experts provide guidance on the
	specific testing regime to be undertaken on both ply and composite samples.
	• Since 2006, all coal quality data has been directly submitted and stored in electronic format using
	acQuire database software. All data provided by the coal laboratory is reviewed before
	acceptance into the database.
	• Sample coal quality results have been cross-referenced and compared against lithology logs and
	downhole geophysical data. Results are also inspected by experienced geologists and compared
	with expected values utilising known coal quality relationships for the Walkato Coalfield.
	 Anomalous assay results were investigated, and where necessary the laboratory was contacted and a re-test was undertaken from sample residue. Erropsous and/or contaminated results are
	excluded from grade estimation
	Downhole geophysical logs (dual density and gamma) are analysed extensively and used to
	validate and, if required, correct geological and sample interval logs to ensure accuracy and
	consistency.
	• All data is provided by the coal laboratory and reviewed internally. In instances where results are
	significantly different from what was observed in downhole geophysical logs or outside of local
	or regional ranges defined by previous testing, sample results are queried and/or retested.
	Twin drillholes have not been used.
Location of	• Rotowaro data is presented in Mt Eden 1949 grid co-ordinate system in New Zealand, with
aata points	Auckland 1946 mean sea level datum (MSL).
	• All drillholes post-1997 have been surveyed using GPS technology and are located within +/-
	40mm in three dimensions. Older drillhole collars were surveyed using conventional methods
	with an unknown precision. • The topographic dataset consists of a digital terrain model (DTM) constructed from an eitherne
	• The topographic dataset consists of a digital terrain model (DTW) constructed form an alloone LiDAR survey (accurate to $\pm/-0.2m$) collected for the whole of the Rotoward site in December
	2012 The DTM has been supplemented by GPS survey data (+/- 40mm accuracy) aerial drope
	photogrammetric survey, and 1:150k LINZ topographic contours.

Criteria	Commentary
	 Surveyed elevations of drillhole collars are validated against the site topographic surface and ortho-corrected aerial photography. Historical underground mine workings plans are based on historical hand drawn plans that have been geo-rectified (in 2D only) by converting from cadastral links to the Mt Eden 1949 geodetic grid. Drillholes with a full suite of downhole geophysics are surveyed for deviation with a verticality tool (+/- 15° azimuth and +/- 0.5° inclination). Some drillholes have been surveyed with natural gamma only. Those holes with no deviation data are assumed to be vertical.
Data spacing and distribution	 Drillholes are variably spaced (from 25m to 100m in easting and northing) depending on target seam depth, geological structure, topographic constraints, down hole conditions due to historical underground mine workings, and degree of existing data density in immediate surrounds. Average drillhole spacing of reliable drillholes found within the model extents is 85m.
Orientation of data in relation to geological structure	 Orientation/spacing/density of drillholes is driven by both coal quality and geological structure. Historically, geological structure was the main factor determining drillhole spacing and orientation. The focus since 2012 has been to delineate areas of elevated sulphur and ash as well as to decrease sample spacing for coal quality. The low angle of strata dips means vertical drillholes are the most successful in achieving desired high angle intercepts of the coal seams. The modelling of the deposit uses drillholes both with and without reliable verticality data. Drillholes without verticality data are considered to be vertical. Vertical drilling is the most suitable drilling method for assessing the resource at Rotowaro.
Sample security	 Rigorous sample preparation and handling procedures have been followed by BT. Core is removed from the drillhole and put into core splits. Core is wrapped in clear-wrap to retain natural moisture and put into core boxes. Core is transported to the core shed, unwrapped, logged, sampled and then re-wrapped. Chip samples are put into bags with marked intervals by drillers and transported to the core shed for logging. Chip samples are disposed of once logged. All coal quality analysis results are approved for input directly into the acQuire database by the resource geologist. It is not considered likely that individual coal samples face a risk of theft or sabotage as coal is a bulk commodity with little value for small volumes of coal from drill core.
Audits or reviews	 Golder have reviewed the geological data available in 2020 and consider the data used to produce the resource model to be reliable and suitable for the purposes of generating a Coal Resource estimate to the extent that the Coal Resource estimate has been classified. BRL senior geologists have undertaken audits of the sample collection and analysis processes, and reviewed the resource model. Integrity of all data (drillhole, geological, survey, geophysical and coal quality) is reviewed by the resource geologist prior to being used in the resource model.

Section 2 Reporting of Exploration Results

Criteria	Commentary						
<i>Mineral tenement and land tenure status</i>	•	The Rotowaro resource area includes a mixture of Crown and privately-owned coal. Rotowaro Coal Mining Licence (CML) 37155 covers approximately 2,423.8 hectares in area and is due to expire on 31 March 2027. All operations at Rotowaro, including the Waipuna Extension pits, are currently undertaken within the CML. BT has sole ownership of the operation. BT holds long term leases over the land underlying the operations. BT holds Exploration Permit (EP) 56220 and Mining Permit (MP) 60422, which cover Crown-					
		Permit/Rights Operation Mining Type Expiry					
		CML 37155 Rotowaro Open Cut 31 Mar 2027					
		EP 56220	Awaroa West	N/A	16 Dec 2024	-	
		MP 60422 Awaroa West Open Cut 03 Jul 2024					

Criteria	Commentary							
	 There a in the n The Ro whereb subseq by way 	re two owners orth of Rotowa yalty Mortgage y BT pays the uently pays the of Coal Lease	of the coal r tro and the F 17836 is a Crown the C Ralph Esta s 4092 and 1	esources in Ralph Estate lease arran Crown royal ate. The Ra 199268.	the Rotowa e. Igement bef Ity for open alph Estate	aro resource a tween the Cro cast coal (\$0. (WJ and SM	area. Thes own and th 50/tonne) Ralph) ow	e are the Crown e Ralph Estate, and the Crown, /ns the balance
Exploration done by other parties	 The previous owner Solid Energy New Zealand Limited (SENZ) and its predecessors have conducted all exploration in the area since 1986. However, there have been earlier periods of work that have contributed to the understanding of the Coal Resource. Early data collection is based on drillhole logs recorded by drillers. From the 1970's drillholes were also logged by geologists, which had the effect of increasing the accuracy, the level of detail, and ultimately the reliability of the exploration data. The addition of downhole geophysical logging in the late 1980's further added to reliability 							
Geology	 The addition of downhole geophysical logging in the late 1980's further added to reliability. The dip is to the northwest at the northern end of the deposit and to the southwest along the western margin. There are a series of northwest-southeast trending anticlines and synclines in the central and east of the deposit. Rotowaro is bounded to the southwest by the Mangakotukutuku Monocline, with a net throw of 90m down to southwest, and to the northeast by the extension of the Waipuna Fault scarp. There are only minor faults identified within the deposit, with throws less than 10m in height. These faults are either recorded on historical underground mine plans or interpreted from structure contour plans derived from drillholes. The area is underlain by indurated siltstones, with common sandstones, of the Mesozoic Newcastle Group, which is weathered to a depth of 5-30m. This unit is referred to as "Basement" and has no economic significance. The Waikato Coal Measures (WCM) lie unconformably on the basement and form the lower part of the Te Kuiti Group. The WCM consist mainly of mudstones and siltstones, often referred to collectively as "fireclay", with common siderite concretions, referred to as "hardbars". The raupiri seams are only represented in the Callaghan's sector of the Rotowaro Coalfield, where they are confined to the structural trough between the Mangakotukutuku Monocline and the Waipuna Fault scarp. Thickness patterns of seams lying close to basement are influenced by the paleo-relief developed on the basement contact, with thickening and thinning over basement valleys and ridges respectively. The upper part of the Te Kuiti Group consists of marine to marginal marine claystones, mudstones, and slitstones and siltstones and siltstones, mudstones, and siltstones, and siltstones and siltstones and siltstones and ridges respectively. 							
Drillhole Information	 ashes of the Hamilton Formation. In summary: 3,559 resource drillholes are located across the Rotowaro prospect. However, only 1196 lie within the Model boundaries and only 1075 of these drillholes have been used for structural modelling and Coal Resource estimation. 							
	Years	Agency	Collar ID Series	Number of Holes in Model Extent	Drilling Method	# of holes in Structure Model	# of Holes in Coal Quality Model	Geophysi cs Available
	unknown	State Coal	0 - 999	127	unknown	115	0	0
	1949	State Coal	1999	140	unknown	137	0	0
	1952	State Coal	2000 - 2999 3000 -	161	unknown	156	0	0
	unknown	State Coal	3999	26	unknown	26	0	0

Criteria	Commentary								
			4000 -						1
	1958	State Coal	4999	26	unknown	26	0	0	
			5000 -					-	
	1958	State Coal	5999 6000 -	31		31	0	0	-
	1904 -	State Coal	6999	76	H	67	46	0	
	1976 -		7000 -		RWD/DD				1
	1984	State Coal	7999	33		32	23	0	-
	1984 -	State Coal	8999	25	RWD/DD H	23	12	20	
	1986 -		15000 -		RWD/DD				
	1996	Coal Corp	15999	322	H	278	122	22	4
	1997 -	Solid Energy	17000 -	155	RWD/DD H	125	97	19	
	2011	Cond Enorgy	11002	100	RWD/DD	120	01	10	1
	2017 -	BT Mining	17553 -	40	Н	4	37	0	4
	2021		17020		AC	34		16	
	2023	BT Mining	17651 -	00	DDH	10	10	11	
			17673	23	Blast	0	0	0	1
			RT001 -		21001				1
	2023	BT Mining	RT007	7	Trench	7	7	0	_
	2023	BT Mining	DUM03 -	4	Synthetic	4	0	0	
	2020	DTWINING	DOMOO	т Т	Oynaload	-	0	0	1
		TOTAL		4400		4075	054		1
		TOTAL		1196		1075	354	88	
	• Full exc	loration drilling	results hav	ve not been	reported.				
Data	• The no	minal air-dried	l basis (adł	a) cut-off f	or ash for o	constructing	the Rotow	aro coal se	am
aggregation	 The normal an-uneu basis (aub) cut-on nor asin for constructing the Rotoward coal sea structure model is set at 20% 					Jam			
<i>methods</i> • The resource model is built as a block model with maximum 0.5m block thicknesse					ses for coa	I			
	Normali	sed coal ply d	ata is used t	o grade es	timate the bl	ock model			
	 Some coal composite samples for full seam, minable sections have been taken for thorough analysis including ash constituents, forms of sulphur, ash fusion temperatures, and ultimate 								
	analysis	s. These comp	osite sample	es are not u	used for grad	e estimation		-,	
Relationship	The stra	atigraphic natu	re of coal me	easures me	eans that the	coal seams o	penerally li	e in a horizo	ntal
between	or sub-l	norizontal plan	e. The reso	urce discus	sed through	out this Table	e 1 docum	ent has a di	ip to
mineralisation	the northwest at the northern end of the deposit and to the southwest along the western margin.								
widths and	Folding and faulting through the coal seams create localised dips approaching 80°.								
Intercept	 A large majority of the surface drillholes were drilled vertically. 								
lenguis	A small	number of inc	lined drillhol	es were dr	illed to targe	t the Mangok	otoku fault	zone.	
Diagrams	Diagram	ns can be foun	d in Append	dix A for ea	ch of the foll	owing:			
	οL	ocation map.							
	0 F	Regional Geolo	ogy.						
	• N	/ap showing N	lining Licen	ces and Pe	ermits.				
	0 N	/lap showing L	and Access	at Rotowa	ro.				
	0 N	/lap showing e	xploration d	rillholes in	model exten	t.			
	0 N	/lap remaining	undergroun	nd workings	5.				
	0 N	/lap of Coal Re	esource clas	sification.					
	• N	/lap of Coal Re	eserve class	ification wi	thin pit desig	ns.			
	0 N	/lap showing T	aupiri Main	seam roof	contours.				
	• N	/lap showing T	aupiri Main	seam thick	ness isopac	hs.			
	0 N	/lap showing T	aupiri Main	seam ash	isopachs.				
	0	/lap showing T	aupiri Main	seam sulp	hur isopachs	-			
Balanced	No exp	oration results	are being	presented	in this Table	e 1 documen	t, rather th	nis documer	nt is
reporting	focusse	d on advance	d projects tl	hat have b	een defined	by geologica	al models	with associa	ated
	Coal Re	esource estima	ites complet	ed.					
	• The exc	lusion of this i	nformation f	rom this Ta	able 1 docum	nent is consid	dered to no	ot be materia	al to

Criteria	Commentary
	the understanding of the deposit.
Other substantive exploration data	 Groundwater has been encountered in most drillholes. A total of 418 piezometers have been installed at various depths in 256 different drillholes in order to monitor changes in ground water levels for geotechnical purposes. Currently there are 5 piezometers being monitored in 4 different drillholes. The different stratigraphic units and rock defects have been assigned various strength parameters based on a mixture of recent and historical laboratory test data (UCS, shear box and ring shears), empirical classifications (RMR, GSI and Hoek Brown) and back analysis of existing cut slopes. Downhole in situ geophysical measurements have been undertaken to compare the strength variability with actual laboratory test data.
Further work	• No significant drilling programs are currently planned within the Rotowaro Coal Mining Licence.
	• Further work may be undertaken to identify any potentially remaining mineable deposits within
	the Rotowaro Coal Mining Licence and adjacent permits.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	 BRL utilises an acQuire database to store and maintain its exploration dataset. All historical and legacy datasets have been thoroughly checked and validated against original logs and results tables. Data recorded in the field is input into field books and later transcribed into the acQuire database. The acQuire database places explicit controls on certain data fields as they are entered or imported into the database, such as overlapping intervals, coincident samples, out of range sample values, standardised look-up tables for logging codes. Manual data entry of coal quality results is not required as results are imported directly from laboratory results files. Validation of historical wash drilled drillholes has been conducted by comparing coal seam depths and thicknesses with those of adjacent more reliable cored drillholes in cross-section. Coal quality data and downhole geophysical logs have been used to validate more recent (post-1977) drillholes, to provide confidence in coal seam depths and thicknesses.
	• All historical and legacy datasets have been thoroughly validated against original logs and results tables. Where reliability of the data is poor the data is excluded from the modelling process.
Site visits	• Eden Sinclair (the Competent Person) regularly visits the Rotowaro mine site, and is familiar with the site's geology, the geological data sets used to estimate resources, and the processes used to construct the Rotowaro resource model.
Geological interpretation	 Confidence in interpretation of geological stratigraphy, structure and coal seam correlation/continuity is variable across the Rotowaro area. Coal seam correlations are difficult to interpret in some areas due to the discontinuous nature, and rapid variation in thickness of the coal. Seam correlation was reviewed and updated using coal seam floor survey data from the open cut operation and improved Stratigraphic Correlation tools available in Maptek software. While the Waikato Coal Measures are entirely conformable, part way through deposition movement on the Mangakotuku Fault ceased, which lead to preferential deposition of mudstone dominated coal measures between Taupiri and Kupakupa coal seams which thickens with proximity to the Mangakotuku Fault. This also presents as different structural trends between the Taupiri and Kupakupa seams. Variations in geological confidence are reflected in the reported resource classifications. Residual uncertainty exists concerning geological structure along the Mangakotuku fault zone. All of the past interpretations of this zone involving highly complex faulting have been proven inaccurate as the geology is exposed through mining. Currently it is modelled as a large steeply dipping monocline. No resources are reported within this fault zone. The data used in the geological interpretation included surveyed field mapping, LiDAR, drillhole data, core logging data, geophysical logs, sampling, coal quality laboratory testing and

Criteria	Commentary
	 assessments. Coal seam ash content can vary locally due to the occurrence of siderite concretions and calcite veining in the coal seams. The resource model does not predict these occurrences well which leads to very localised increases in ash. Other factors affecting continuity of coal seams are basement ridges (causing thin coal) and faulting. The Taupiri Lower seam can terminate against basement highs and ridges due to peat "onlap" during deposition. It can be difficult to predict whether the Taupiri Lower seam is merged with the Taupiri Main seam over basement highs, as is sometimes the case, or whether it terminates against the basement. This can lead to a want zone where the Taupiri Lower coal seam is absent. Where this has been observed in the past it was found that the increased thickness of the Taupiri Lower seam around the want zone balances out the reduced tonnages within the want zone.
Dimensions	 The Rotowaro resource model covers approximately 734Ha. Within this area all seams are exposed in the operating mine. Prior to mining the Renown Seam roof was as close as 6m below the surface and the floor of the Taupiri Bottom seam is as deep as 290m (-200m RL) below surface. Coal seam thickness varies considerably throughout the Rotowaro area, from 28m down to <0.5m.
Estimation and modelling techniques	 One single geological model is used to define the geology within the resource area. Modelling has been undertaken using Maptek's Vulcan™ (Vulcan) software by geologists and mining engineers trained and experienced in its use. The Tauranga Group (Quaternary sediments and soils) structural floor is modelled using a triangulation algorithm. Structural surfaces for coal seam roof and floors are modelled using a triangulation algorithm to produce grids on a 10x10m basis in order to best define the structure in the project area. From these grid models a 10x10m block model is produced. Upper stratigraphic units (Marine sediments, Renown and Kupakupa seams) and lower units (Taupiri seams) are modelled separately. Maptek's Integrated Stratigraphic Model (ISM) module is used to produce the structure model. The Hybrid stacking method is used which triangulates a reference surface and then stacks the remaining horizons by adding structure thickness. Thickness grids are created using a triangulation modelling algorithm. Design data from other horizons is incorporated into the final grid structure. Grid modelling of the stratigraphic sequence is completed in two stages. One pass models the upper coal seams of the Kupakupa and Renown seams and a second pass models Taupiri group of seams. Modelling parameters for the structural modelling are as follows: Kupakupa and Renown Groups - Reference grid surface (KK22 Floor) by Hybrid Stacking: Method is Triangulation. Trend Order is 1. Smoothing is 9. The maximum triangle length is 750m. Surfaces are splined. The maximum triangle length is 750m. Surfaces are splined. The maximum triangle length is 750m. Surfaces are splined. The maximum triangle length is 750m.

Criteria	Commentary
	 Surfaces are splined. Taupiri group - Grid thickness modelling by Hybrid Stacking: Method is Triangulation. Trend Order is 0. Smoothing is 9. The maximum triangle length is 750m. Surfaces are splined. No cropping of grid surfaces is undertaken. This is completed during construction of the resource block model. Validation of data during modelling occurs at different stages: Review of historical drillhole datasets prior to modelling to ensure that the original dataset is in order.
	 Review of drillhole data using Vulcan data validation tools. Review of drillhole coal seam codes to ensure correct seam code correlations. Once structural grids have been produced from drillhole data, the slice viewer tool is used to run sections through the grids both across and along dip to check for any anomalies. Finally, once structural grids have been produced from drillhole data contour plans are produced to ensure modelled values represent original data. The unclipped triangulations generated by the ISM tools are used to create the resource block model using the Stratigraphic Block Model tool along with topography, basement, mined out surfaces, and stratigraphic surfaces for Whaingaroa, Glen Massey, and Mangakotuku Formation's (marines), and the Tauranga Group quaternary unconformity.
	 Coal quality data is estimated using inverse distance squared block estimation with coal quality samples normalised into 0.5m intervals. Five coal quality attributes are modelled simulaneously. Ash, Sulphur, Calorific Value, and Volatile Matter are estimated on a dry basis (db) and Inherent Moisture is estimated on air-dried basis (adb). The estimation is completed over three runs for each coal seam with increasing circular search distances (80m, 250m, 500m) with the minor axis (across the coal seam from roof to floor) controlled using Vulcan's Tetra projection unfolding tool.
	 Estimated block values are determined as part of modelling workflow which are reviewed by a senior geologist to ensure no anomalies exist and that original data is honoured. The grade estimations were checked using Quartile-Quartile (QQ) Plots and Swath Plots to examine global and local normalised coal quality data to block value comparisons. The Rotowaro resource was underground mined from 1919 to 1986. The Rotowaro No's.1, 3, 5, and 6, Callaghans, and Mahons all operated within the Rotowaro Coal Mining Licence. The Rotowaro West exploration permit has been underground mined by Awaroa No. 4, and Summit. Underground Mining studies for the site have been conducted with historical plans digitised and void size estimated based on mining techniques. From this the resource and reserves are depleted based on estimated recoveries as detailed below under mining factors or assumptions. The Rotowaro resource has also been mined by numerous open cut mines. Rotowaro 1, 2, and
	 A meriod value resource has also been mined by numerous open cut mines. Rotoward 1, 2, and 3, Maori Farm 1, 2, and 3, Waipuna, Callaghans, Boundary, and the currently operating mine (Rotowaro) have all operated in the Rotowaro Coal Mining Licence. Mining has been occurring continuously at Rotowaro since 1919 with no record of acid mine drainage although some neutral metalliferous drainage has been identified.
Moisture	 Test work has been undertaken to determine moisture levels from all core with Inherent Moisture being measured in the 8000, 15000, and 17000 series drillholes. Total Moisture is also measured. Total moisture is modelled using a constant 5.3% loss on drying (LOD) across the deposit.
Cut-off parameters	 A minimum coal seam daughter thickness cut-off for all modelled daughter seams is 0.5m, with maximum parting thickness of 0.1m. The coal has been classified as high volatile sub-bituminous B rank and is marketed as suitable for iron sand metallurgical processing and thermal coal.

• A maximum ash cut-off of 20%(db) has been applied to all samples used in grade estimation of

Criteria	Commentary
	the resource model.
	 Coal Resources have been defined as economic by using a Lerchs-Grossman optimised pit shell using budgeted mining costs and contracted coal sales values. The 0.82 revenue factor (RF) shell from the optimisation has been used. No resources have been reported outside of this pit shell. This optimised pit shell is used to determine Reasonable Prospects for Eventual Economic Extraction (RPEEE).
Mining factors	This report is for a long-term operating site.
Or	• The site operates using traditional truck and excavator open cut mining methods with mining
assumptions	parameters selected from long term experience of local conditions.
	 Underground extraction from historic mines has been factored into resource estimates with extraction rates estimated from 15-40% for first worked workings, and 55-65% extraction for pillared areas.
	 Only coal that falls within an optimised 0.82 RF pit shell is reported as Coal Resources. Costs and revenue parameters used in the pit optimisation study include allowances for royalties, commissions, mining costs, coal processing and administration, and basic mining and processing league.
	Centechnical parameters for cut slope design were developed based on historical cut slope
	 Performance, slope back-analysis and laboratory testing of material strength parameters. Slopes are designed to comply with a Factor of Safety that exceeds 1.2 and within BRL risk volume criteria which is a function of the probability of failure and potential failure dimensions. Resource tonnages do not account for mining factors such as dilution, losses, and wash yield. These factors are discussed in Section 4 and are accounted for in recorded.
Motollurgiaal	Although not included in the recourse model studies have been conducted on the properties of
factors or assumptions	 Although not included in the resource model, studies have been conducted on the properties of the coal pertaining to combustion potential, ash fusion temperatures and Hardgrove Grindability Index (HGI).
Environmental	• There are several Resource Consents regarding land use, air, and water quality that must be
factors or	strictly adhered to for the Rotowaro site.
assumptions	Rotowaro mine site has no rock types that generate acid rock drainage.
	• Suspended solids are treated through a series of drains and sumps that collect turbid water which is pumped through the central water treatment plant where dosing with flocculants can occur if
	necessary, before being discharged into the Rotowaro stream.
	Waste material is renabilitated using soils recovered before overburden removal. The soil is spread and then sown in grass soud before final rehabilitation outcomes are implemented.
	The Rotoward site has resource consent to use bio-solids as a soil conditioner to belo with re-
	establishing vegetation as part of the rehabilitation of certain areas of the site.
Bulk density	 After grade estimation density is calculated using a density-ash relationship (air-dried basis). Density (adb) = ((0.0001 x (as ad²)) + (0.0087 x as ad) + 1.2715).
	• In situ moisture across all seams in the model is calculated using a LOD of 5.3% which is the average ROM coal moisture.
	An in situ density value is then computed using the Preston Sanders method.
Classification	BRL classifies resources using a multivariate approach.
	• Coal Resources have been classified based on geological and grade continuity balanced by
	relative uncertainties surrounding historical underground extraction. The result reflects the
	Competent Person's view of the deposit.
	Closely spaced drillholes with valid coal quality samples (point of observation) increase the confidence in resource assessments.
	The confidence is reduced by:
	 A block being within an area of historical underground workings due to extraction rate
	uncertainty.
	 A block lying in an area where structure dip is greater than 20° due to proximity to large faults. Faulting can impact coal thickness and quality.
	• Essentially, in an area that is not affected by the above conditions, a distance to nearest sample of less than 75m would be classified as Measured, less than 150m is classified as Indicated and

Criteria		Commentary
		less than 500m would be classified as Inferred.
	•	All resources reported lie within the 0.82rf optimised pit shell.
Audits or reviews	•	In 2020, Golder was engaged to review and rebuild the geology resource model and several updates to seam correlation in the model were completed and have been retained for the 2023 resource model.
	•	Several internal reviews have been completed during the various project stages. No further external audits or reviews have been undertaken on this resource estimation.
Discussion of relative accuracy/ confidence	•	Based on the data available, the degree of accuracy of this statement is considered high for the Rotowaro resource. The process for calculation has used: Standards, Guidelines and the JORC Code along with best practice where available to define the Resource estimates provided to confirm search estimation ranges and drillhole spacing for each resource classification. Coal Resources have been defined as economic by using a Lerchs-Grossman optimised pit shell using budgeted mining costs and contracted coal sales values. The 0.82RF shell from the optimisation has been used. No resources have been reported outside of this pit shell. This optimised pit shell is used to determine RPEEE.

Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	 Coal Reserves are calculated from Measured and Indicated Coal Resources. Criteria listed in preceding sections also apply to this group (Sections 1-3 above). A 3D Resource block model, using Vulcan[™] software, of topography, structure and quality are used for in situ Coal Resource definition. Coal Resources are reported inclusive of the Coal Reserves. Coal Reserves decreased in 2023 attributed to: Mining and stockpile depletion. Reclassification of mineral status, due to change in the methodology of Coal Resource classification to a multi variant approach that downgraded some Indicated coal resource tonnes to Inferred coal resource tonnes (Section 3).
Site visits	 Sue Bonham-Carter (the Competent Person) is a Mining Engineering contractor to BT Mining and visits the project area on a regular basis. Ms. Bonham-Carter has over 30 years' experience working in surface coal mines.
Study status	• Rotowaro is an operating open pit coal mine project. The reportable Coal Reserve is based on the life of mine (LOM) plan and has determined a mine plan that is technically achievable and economically viable, and that material modifying factors have been considered.
Cut-off parameters	 A minimum coal seam daughter thickness cut-off for all modelled daughter seams is 0.5m, with maximum parting thickness of 0.1m. Thin seam cut-off limit is determined from long term site experience and quality information related to customer coal supply sales product specifications. A minimum mining width of 30m is assumed based on equipment fleets and mining methods
Mining factors or assumptions	 Lerchs-Grossman techniques, using industry standard Whittle[™] software, were applied to determine the economic pit shell extents based on actual performance and the budgeted mining costs, licence boundary, preliminary slope parameters and contracted coal sales values. The selected RF0.82 shell was subsequently modified following further detailed slope stability analyses and with access incorporated into pit designs. Standard truck and excavator have been determined to be most cost-effective mining method given the multiple coal seams and is the proven mining method in terms of past and present operations at site. Geotechnical parameters for cut slope design were developed based on historical cut slope performance, slope back-analysis and laboratory testing of material strength parameters. Highwall design criteria include slopes in Waikato Coal Measures (fireclay and coal) and 'softs' (marine sediments, quaternary clays and old backfill). Slopes are designed to comply with a Factor of Safety that exceeds 1.2. Consideration is also given of the stability effects where

Criteria	Commentary
	 underground workings may have weakened the rock mass above worked coal seams. Modifying factors applied include a minimum mining thickness, seam compositing factors, losses associated with previous surface and underground mining and a coal processing plant washery yield. Mining modifying factors are: Minimum mining seam thickness of 0.5m, parting 0.2m, Roof/floor losses 0.15m (combined) per recoverable seam. Roof/floor contamination on 0.04m (combined) Roof dilution of 0.01m and floor dilution of 0.04m Coal Resource tonnes (refer to Section 3 above) are estimated using seam depletion quantities derived from historical surface and underground production records and survey data (if available). Blocks containing underground extraction are also applied in the mining model with varying levels of losses, dilutions and contamination depending on the underground worked seam and area. ROM coal tonnes are estimated by taking mining losses away from coal resource tonnage with the Diluted and contaminated ROM coal fraction sent to the onsite coal washery for beneficiation and bypass coal sent directly to the onsite blending plant. The washery yield is currently modelled at 62% based on actual plant performance.
Metallurgical factors or assumptions	 Contamination qualities. Product coal specifications include ash, sulphur, fixed carbon, moisture and calorific value. Product specifications are adequate to meet contractual sales requirements. The only material that could be considered by-product that is recovered from the Rotowaro resource is contaminated coal. This comes from collapsed underground workings and seam contact roof and floor cleanings. It is washed at the coal washery at an estimated 62% product vield.
Environmental	 All regulatory consents and land access agreements required for an operating mine are in place and current. If future regulatory approvals or renewals are required to achieve the LOM production, including the current Mining Licence which expires in 2027, it is expected that these can be obtained in a timely manner under current regulatory consenting pathways. Reserves include the extension of Waipuna West Pit to the south and east. A wildlife permit for part of the planned mining in the west extension block is awaiting approval from the Department of Conservation and expected to be granted in Q1 2024. Waste rock characterisation results show that the material is non-acid producing, as such it does not require special placement requirements or procedures in the waste rock dumps. The excavation of overburden at Rotowaro however can increase sediment and specifically Boron concentrations in surface runoff, therefore site water is managed through a series of diversions, ponds and a treatment plant prior to discharge, the site is compliant with consents.
Infrastructure	 All necessary infrastructure is in place and operational for the current operation. Labour and accommodation is sourced for nearby towns and cities. Access to site is on well-formed and established roads/highway. Coal is sold at the gate and the site has adequate stockpile room for the planned production rate and established coal transportation systems including rail, conveyance or trucking loadout facilities.
Costs Revenue	 Rotowaro is an existing operating mine and as such all major infrastructure is in place. Capital requirements for the reported Coal Reserves are limited to mainly sustaining capital for equipment replacement and is included in the economic model. All operating costs were based on the three-year budget estimates and include allowances for Crown and private royalties, levies, commissions, mining costs, infrastructure, coal handling and processing, train loading and administration. Coal product specifications and penalties for failure to meet specification are included. Long term coal supply sales contracts are in place.
factors	Long term coal supply sales contracts are in place.

Criteria	Commentary
Market assessment	• The pit is an existing operating mine with long term sales contracts in place.
Economic	 Rotowaro is a long term operating mine. Economics for estimation and reporting of Coal Reserves purposes, detailed mine design and schedules are generated. This work includes identifying the mining sequence and equipment requirements. Lerchs-Grossman pit optimisation is used as a tool to identify the pit extents of coal resources that may have the potential to be converted to reserve. BRL generates detailed cash flow schedules and identifies incremental and sustaining capital. Long term domestic coal sales contracts are in place.
Social	 All regulatory resource consents and licences required for operating the mine are current. The site has iwi and stakeholder engagement management plans. Updating of approvals is an ongoing process and it is reasonably expected that any modifications to existing approvals or additional approvals that may be required can be obtained in a timely manner.
Other	• The New Zealand government is phasing out coal as part of meeting international commitments to reducing greenhouse gas emissions climate change and the goal for transition to a net zero carbon economy, decarbonisation of coal supply customers is expected to reduce future sales volumes. This has been considered in market forecasts, schedules and economic model.
Classification	 Confidence is based on the Coal Resource model assessment. Results fairly reflect the Competent Person's understanding of the deposit. Classification of Coal Reserves has been derived by considering the Measured and Indicated Resources and the level of mine planning. For the Rotowaro operation, Measured Coal Resources are classified as Proven Coal Reserves and Indicated Resources classified as Probable Coal Reserves, as the mine is currently operating and the level of mine planning adequate. Coal Reserves decreased in 2023 due to a change in the reclassification methodology of the Coal Resource Classification criteria to a multi variant approach. The Inferred Coal Resources have been excluded from the Reserve estimates.
Audits or reviews Discussion of relative accuracy/ confidence	 Several internal reviews have been completed during the various project stages and during purchase of the site by BT Mining for due diligence in 2016. Coal Reserves have been reported in accordance with the guidelines of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, the basis of the categorization reflects the accuracy of the coal reserve tonnes. Confidence in the result is reinforced by reviewing the long-term performance of the sites history verses actual coal production. Reconciliation of the current model continues to demonstrate a 0-10% improvement in coal product mined versus model.
	 The longer-term results show good correlation between actual tonnes sold and the model and therefore it shown that the current modifying factors are performing adequately. The confidence is reduced by: A block being within an area of historical underground workings due to extraction rate uncertainty. A block lying in an area where structure dip is greater than 20° due to proximity to large faults. Faulting can impact coal thickness and quality

Appendix A:



Figure 1: Location map of Rotowaro



Figure 2: Regional Geology



Figure 3: Rotowaro and the Coal Licences and permits within the resource model area



Figure 4: Rotowaro Land Access plan



Figure 5: Plan showing the drilling dataset used to produce the resource model



Figure 6: Plan showing the Extent of remaining Underground Workings.



Figure 7: Plan showing the resource classification polygons for the Taupiri Main seam



Figure 8: Plan showing the reserve classification polygons for the Taupiri Main seam



Figure 9: Plan showing the structure contours of the Taupiri coal seam roof



Figure 10: Plan showing Taupiri seam thickness contours over the resource area



Figure 11: Plan showing in situ Taupiri seam ash on an air-dried basis as modelled over the resource area



Figure 12: Plan showing Taupiri seam sulphur on an air-dried basis across the resource area

JORC Code, 2012 Edition – Table 1 Report for Rotowaro North Extension 2023

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	 Multiple campaigns of data acquisition have been conducted in the Waikato Coalfield, and at the Rotowaro North Extension project area over the past century. Core drilling for coal quality sampling is limited in this area. When core drilling is undertaken it is done so using PQ or HQ Triple Tube Coring (TTC) methods. Coal core samples are assigned unique identifiers and dispatched to the laboratory with Chain of Custody tracked using paper, e-mail and/or acQuire software. Core recovery recorded in the field is validated and adjusted if required using downhole geophysical logs during core logging and sampling. Composite samples are generated from individual coal plies at the laboratory that are thickness weighted. A suite of downhole wireline geophysical logs, including density, natural gamma, caliper, sonic, dipmeter, acoustic scanner, and verticality were often run in drillholes drilled in the last 15 years. Natural gamma is the primary tool used for seam correlations. All tools were calibrated on a regular and systematic basis. All analytical data has been assessed and verified before inclusion into the resource model.
Drilling	 Tungsten drag bits have been used to wash drill fully open holes (OH) and open hole sections.
techniques	 This drilling method is the primary method used within the drilling dataset. TTC barrels have been used to recover coal core to established industry standards. Core diameters are HQ (63.5mm) and PQ (85mm). No core has been orientated.
	• Some recent drilling has utilised air-core (AC) holes. AC samples are logged onsite and
	provide coal seam roof and floor intercepts.
	 A large number of historical drinnoles are included in the resource modelling database for the area modelled. Drillholes that have no verifiable location, lithology log or survey, or contradict adjacent reliable data, are considered unreliable and are excluded from the Coal Resource modelling process.
	 A drillhole dataset from a previous operator of the project area has been added to the resource modelling database after data verification against original logs.
Drill sample recovery	 Core recovery was measured as the length of core recovered divided by the length of driller's run and noted by the core logging geologist. If recovery of coal intersections dropped below 90%, the drillhole required a re-drill in recent TTC drilling campaigns. Standard industry techniques are employed for recovering core samples from HQ and PQ diameter TTC drillholes.
	 Mean total core recovery over recent drilling campaigns was over 90%, with core recovery of coal at 90%.
	 For open holes and open hole sections, cuttings are sampled in intervals five metres in length or when there is a change in lithology and logged.
	Little core recovery data is available for historical cored drillholes.
Logging	 Bathurst Resources Limited (BRL) has developed standardised core logging procedures (BRL Coal Logging Procedures), and all core logging completed by BT Mining (BT) has followed these procedures.
	 All recent drill core has been geologically and geotechnically logged by logging geologists under the supervision and quidance of experienced exploration and geotechnical geologists
	 All drill core was photographed prior to sampling. Depth meter marks and coal ply intervals are
	noted on the drill core in each photograph.
	All TTC core samples are logged in detail (centimetre scale).
	 Quantitative logging for lithology, stratigraphy, texture, hardness, Rock Quality Designation (RQD) and defects is conducted using defined material code types based on characterisation

Criteria	Commentary
	 studies. Colour and any other additional qualitative comments are also recorded. In conjunction with geological logging, many drillholes are geophysically logged with natural gamma or a suite of tools (as described above). Downhole geophysical logs, particularly natural gamma, are analysed and used to confirm and correct depth measurements on geological logs and sample locations. Validation and, if required, correction of the geological logs against downhole geophysical logs is undertaken to ensure accuracy and consistency. Verticality, calliper, density and natural gamma tools are checked regularly with standard calibration assemblies. Density calibrations are performed routinely with blocks of material of known densities (aluminium and/or water). Downhole geophysical logs were used to aid core logging. Downhole geophysics was used to correlate coal seams, to confirm depths and thickness of coal seams and to validate drillers' logs. Downhole geophysical logs were also used to accurately calculate recovery rates of coal.
Sub-sampling techniques and sample preparation	 For all exploration data acquired by BT, in-house detailed sampling procedures were used (BRL Coal Sampling Procedures). Sampling and sample preparation are consistent with internationally accepted coal sampling and sample preparation methodologies. No splitting of core is undertaken in the field or during sampling. Typically, recovery from TTC drilling is >90%. Sample interval and core recovery recorded in the field by drillers is validated and adjusted if required using downhole geophysical logs during core logging and sampling. Sample selection is determined in-house according to the BRL Coal Sampling Procedures. Clean coal core has been sampled in plies generally 0.5m in length, depending also on core loss intervals and lithological variations. Sampling and sample preparation are consistent with international coal sampling methodology. Associated high ash coal intervals and partings were sampled separately to assess potential dilution effects where they are < 0.5m thick. Composite horizons for further composite sample analysis were determined by the ash yield of the plies. Samples are placed into labelled bags to ensure proper Chain of Custody and transported to the laboratory for testing. The laboratory continues with the Chain of Custody requirements. Sample preparation is undertaken according to industry standards. HQ core diameter is considered to provide a sample of sufficient volume to be representative of the in situ material and provides adequate sample mass to undertake the variety of raw coal tests together with composite testing when required, however drilling with PQ core has been undertaken to aid in coal recovery and sample representativeness particularly around areas with historic underground coal mining.
Quality of assay data and laboratory tests	 Coal ply thickness weighted compositing is conducted by SGS New Zealand Limited (SGS). SGS and Verum Group (ACIRL Australia and Newman Energy subcontracted for specific tests) laboratories are used to undertake physical and chemical testing and use Industry Standards for all coal tests and systematic Quality Assurance/Quality Control (QA/QC) procedures for all work. Both laboratories hold accreditation by International Accreditation New Zealand (IANZ). The processes employed are considered appropriate for coal quality analysis. Results are reviewed in-house by a senior geologist to ensure the accuracy of the data. The laboratory has been inspected by the BT personnel. Tests include: Chemical Analysis Loss on air drying (ISO 13909-4). Inherent moisture (ASTM D 7582 mod). Ash (ASTM D 7582 mod). Volatile matter (ASTM D 7582 mod). Fixed carbon (by difference). Sulphur (ASTM D 4239). Swelling Index (ISO 501). Calorific value (ISO 1928). Mean maximum reflectance all vitrinite (RoMax) (Laboratory Standard). Chlorine in Coal (ASTM D 2639).

Criteria	Commentary
	 Forms of sulphur (AS 1038 Part 11). Ash fusion temperatures (ISO 540). Ash constituents (xrf) (ASTM 4326). Ultimate Analysis (ASTM D3176-09). Rheological and Physical Hardgrove grindability index (ISO 5074, ASTM D409-02). Relative density (AS 10382111-1994).
	All analysis was undertaken and reported on an air-dried basis unless stated otherwise.
Verification of sampling and assaying	 Sample coal quality results have been cross-referenced and compared against lithology logs and downhole geophysical data. Results are also inspected by experienced geologists and compared with expected values utilising known coal quality relationships for the Waikato Coalfield. Anomalous coal quality analytical results were investigated, and where necessary the laboratory was contacted and a re-test was undertaken from sample residue, or results excluded from use in the resource model. Generally, drillholes are geophysically logged, and verification of coal seam details is made through analysis of downhole geophysical logs. Assessments of coal intersections is undertaken by an internal or contract geologist. Downhole geophysical logs allow confirmation of the presence (or absence) of coal seams, accurate determination of contacts to coal seams, and density measurements are used to guide sampling and identify high ash bands. Downhole geophysical logs (dual density and gamma) are analysed extensively and used to validate and, if required, correct geological and sample interval logs to ensure accuracy and consistency. All diamond core samples are checked, measured, and marked up before being logged in detail. Every discrepancy between the measured length of the core and the driller's length marked on the core blocks is investigated. Quantitative logging for lithology, stratigraphy, texture, hardness, RQD and defects is conduced using defined material code types based on characterisation and mineralogical assessments to the nearest centimetre. Colour and any other additional qualitative comments are also recorded. Raw logs, as well as sample dispatch details, are recorded on paper then transferred into the acQuire database in accordance with BRL standards. All difficance as photographed prior to sampling. Depth meter marks and coal ply intervals are noted on the drill core in each photograph. Sample sheets are developed in-hou
Location of	 Rotowaro North data is presented in Mt Eden 1949 and co-ordinate system in New Zealand
data points	with Auckland 1946 mean sea level datum (MSL).
	 All drillholes post-1997 have been surveyed using GPS technology and are located within +/-40mm in three dimensions. Older drillhole collars were surveyed using conventional methods with an unknown precision. The topographic dataset consists of a digital terrain model (DTM) constructed from an airborne
	photogrammetry survey (accurate to +/- 0.5m) collected for the whole of the Rotowaro North site in December 2014.
	• Surveyed elevations of drillhole collars are validated against the topographic surface and ortho-

Criteria	Commentary
	 corrected aerial photography. Historical underground mine workings plans are based on historical hand drawn plans that have been geo-rectified (in 2D only) by converting from cadastral links to the Mt Eden 1949 geodetic grid. Historic open pit mine plans have been digitised and used to estimate mined out areas and model the base of any backfilled areas. Early generation CAD files for pit designs and rehab surfaces have been sourced from previous operators and used to update model with historic extraction. Drillholes with a full suite of downhole geophysics are surveyed for deviation with a verticality tool (+/- 15° azimuth and +/- 0.5° inclination). It is assumed that vertical holes have not deviated significantly.
Data spacing and distribution	 Drillholes are variably spaced (<30 m to >500 m in easting and northing directions) depending on target seam depth, geological structure, topographic constraints, downhole conditions due to historical underground mine workings, and degree of existing data density in immediate surrounds. Drillholes are concentrated on two areas containing historic underground mines and focused on the areas with the shallowest coal seams. 100m average spacing within the model extents, and 72m within the target areas based on proportional area of coverage for each drillhole. Drilling data is concentrated on areas that have already been exhausted through previous open pit mining.
Orientation of data in relation to geological structure	 Vertical drilling is the most suitable drilling method of assessing the resource at Rotowaro North. The low angle of strata dips means vertical drillholes are the most successful in achieving desired high angle intercepts of the coal seams. Orientation/spacing/ density of drillholes is driven by both coal quality and geological structure. Drillhole spacing is biased by design, aiming to delineate areas of elevated and low sulphur and ash, as well as high structural complexity throughout the mining areas in addition to targeting areas where lower strip ratios are expected (i.e. where coal seams are shallower). The modelling of the deposit uses drillholes both with and without reliable verticality or deviation data. Drillholes without verticality data are assumed to be vertical, and any minor deviation is not expected to be material to the resource estimation.
Sample security	 Rigorous sample preparation and handling procedures are followed by BT. Core is removed from the borehole and put into core splits. Core is wrapped in clear-wrap to retain natural moisture and put into core boxes. Core is transported to the core shed, unwrapped, logged, sampled and then re-wrapped or bagged. Aircore chip samples are put into bags with marked intervals by drillers and transported to the core shed for logging. Chip samples are disposed of once logged. All coal quality analysis results are approved for input directly into the acQuire database by the resource geologist. It is not considered likely that individual coal samples face a risk of theft or sabotage as coal is a bulk commodity with little value for small volumes of coal from drill core.
Auaits or reviews	 Golder and BRL have reviewed the geological data available and consider the data used to produce the resource model is reliable and suitable for the purposes of generating a Coal Resource estimate to the extent that the Coal Resource estimate has been classified. BRL senior geologists have undertaken audits of the sample collection and analysis processes. Integrity of all data (drillhole, geological, survey, geophysical and CQ) is reviewed by a resource geologist before being used in the resource model.

Section 2 Reporting of Exploration Results

Criteria	Со	mmentary
Mineral tenement and	•	The Rotowaro North Extension resource area includes a mixture of Crown and privately- owned coal.

Criteria
land tenure status
Exploration done by other parties
Geology
Criteria

Drillhole Information
Data aggregation methods
Relationship
between
widths and
intercept
lengths Diagrama
σιαγιαπίδ

Criteria	Commentary
	 Location map.
	 Regional geological map (QMap).
	 Map showing Mining Licenses and Permits.
	 Map showing Land access.
	 Map showing exploration drillholes.
	 Map of underground workings.
	 Map of Coal Resource classification for Kupakupa seam.
	 Map of Coal Resource classification for Renown seam.
	 Map showing Kupakupa seam floor contours.
	 Map showing Kupakupa seam thickness distribution.
	 Map showing Kupakupa seam ash isopachs.
	 Map showing Kupakupa seam sulphur isopachs.
	 Map showing Renown seam floor contours.
	 Map showing Renown seam thickness distribution.
	 Map showing Renown seam ash isopachs.
	• Map showing Renown seam sulphur isopachs.
Balanced	• No detailed exploration results are being presented in this Table 1 document, rather this
reporting	document is focussed on advanced projects that have been defined by geological models with
	associated Coal Resource estimates completed.
	• The exclusion of this information from this Table 1 document is considered to not be material
	to the understanding of the deposit.
Other	• Groundwater has been encountered in most drillholes, with saturated conditions encountered
exploration	when there has been intersection with historically pillared mined out areas.
data	• Mine plans and production data from the historic underground and open pit operations within
	the project area have been used to determine areas of remaining coal resource, underground
	extraction rates, and provide a basis for coal quality estimates.
	• Fault layers used to control the structural model have been derived by using regional
	geological maps and digitised from underground mine plans.
Further work	• Pre-feasibility studies (PFS) are ongoing at the Rotowaro North Extension project.
	Land and mineral access agreements are in discussions with land and mineral owners.
	• A programme of infill drilling is underway to improve coal quality data distribution across the
	project area.
	 An update to resource estimation is also expected as a result of this work.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	 BRL utilises an acQuire database to store and maintain its exploration dataset. All historical and legacy datasets have been thoroughly checked and validated against original logs and results tables where available. For new exploration campaigns data recorded in the field is input into field books and later transcribed into the acQuire database. The acQuire database places explicit controls on certain data fields as they are entered or imported into the database, such as overlapping intervals, coincident samples, out of range sample values, standardised look-up tables for logging codes.
	 Manual data entry of coal quality results is not required as results are imported directly from laboratory results files. Validation of historical wash drilled drillholes has been conducted by comparing coal seam depths and thicknesses with those of adjacent more reliable cored drillholes in cross-section. Coal quality data and downhole geophysical logs have been used to validate more recent (post-1977) drillholes, to provide confidence in coal seam depths and thicknesses.
Site visits	• Eden Sinclair (the Competent Person) has regularly visited the project area as part of the ongoing infill resource drilling and is familiar with the site and with the geology of the Waikato

Criteria	Commentary
	Coalfield.
Geological interpretation	 Confidence in interpretation of geological stratigraphy, structure and coal seam correlation/continuity is high across the Rotowaro North Extension area, as the coal seams have a consistent thickness, there are only two main coal seams and underground mine workings plans provide detail on coal seam continuity and extent. Residual uncertainty exists concerning the major fault structures in the deposit and their precise location and local effects on coal seams. These structures have been defined using
	 regional geological maps and interpretation of the drillhole data sets in cross-section, and underground workings plans. The data used in the geological interpretation included field mapping, regional geological
	 Some uncertainty surrounds the historical mine workings, both in the quality and quantity of coal extracted and therefore remaining in ground, and the surveying and positioning of underground workings. This is reflected in the resource classification with areas containing underground workings having a reduced resource confidence.
Dimensions	The Rotowaro North Extension resource model covers approximately 1.870ba
	 Within this area, both the Kupakupa and Renown seams have been mined via underground methods (Renown in the north and Kupakupa in the south) as well as subsequent open cut mining methods in areas of historically first worked coal. A total area of 420ha has been worked via these methods.
	 Coal thickness values across the Rotoward North Extension area, generally ranging from 9m down to 0.5m
Estimation	One single geological model is used to define the geology within the resource area
and modelling techniques	 Modelling has been undertaken using Maptek's Vulcan™ (Vulcan) software by geologists and mining engineers trained and experienced in its use.
	• Structural surfaces for coal seams roof and floor are modelled using a triangulation algorithm to
	produce grids on a 10 x 10m basis in order to best define the structure in the project area.
	• Maptek's Integrated Stratigraphic Model (ISM) module is used to produce the structure model.
	The Stacking method is used which triangulates a reference surface using the KK coal floor,
	and then stacks the remaining horizons by adding structure thickness. Thickness grids are created using an inverse distance modelling algorithm
	 No additional Design data or points are incorporated into the final grid structure.
	 Modelling parameters for the structural modelling are as follows:
	Reference grid surface (KK22 Floor) by Stacking:
	 Method is Triangulation.
	 Trend Order is 1 (Linear).
	 Smoothing is 9. The maximum triangle length is 1500m.
	 I ne maximum triangle length is 1500m. Surfaces are splined
	Grid thickness modelling by Stacking:
	 Method is Inverse Distance.
	• Power is 2, maximum interpolative points is 12.
	 Trend Order is 1 (Linear).
	• Smoothing is 9.
	• The maximum triangle length is 1500m.
	 Surfaces are spined. Validation of data during modelling occurs at different stages;
	 Validation of data during modelling occurs at different stages. Review of historical drillhole datasets prior to modelling to ensure that the original dataset is in order.
	 Review of drillhole data using Vulcan and Geology Core data validation tools.
	 Review of drillhole coal seam codes to ensure correct seam code correlations in Vulcan and Geology Core.
	• Once structural grids have been produced from drillhole data, the slice viewer tool is used to run sections through the grids both across and along dip to check for any

Criteria	Commentary
	anomalies.
	 Finally, once structural grids have been produced from drillhole data contour plans are produced to ensure modelled values represent original data.
	• Resource coal quality is grade estimated using inverse distance squared block estimation with coal guality samples composited into 0.5m intervals.
	• Five coal quality attributes are modelled simultaneously. Ash, Sulphur, Calorific Value, and
	Volatile Matter are estimated on a dry basis (db) and Inherent Moisture is estimated on air
	dried basis (adb).
	 The estimation is completed over five runs for each coal seam with increasing circular search distances (30m, 80m, 200m, 500m, 1500m) with the minor-axis (across the coal seam from roof to floor) controlled using Vulcan's Tetra projection unfolding tool.
	• The resources within the Rotowaro North project area were underground mined by the
	MacDonalds Mine from 1930 to 1971, and the Renown Mine from 1927 to 1972. Underground
	mining studies for the site have been conducted with historical plans digitised and void size
	estimated based on mining techniques. From this the Coal Resources are depleted based on
	estimated recoveries as detailed below (see <i>Mining factors or assumptions</i>).
	• The area has also been mined in the past by numerous opencast mines that have mainly targeted the regions of underground mines with first worked coal. The resource model has depleted areas completely where open pit mining has taken place.
Moisture	• Test work has been undertaken to determine moisture levels from all core with Inherent
	Moisture being measured in the 8000, 15000, and 17000 series drillholes. Total Moisture is also measured within.
	• Total moisture is modelled using a constant 6.95% loss on drying (LOD) across the deposit
	based on the mean LOD in the dataset.
Cut-off	A minimum coal seam thickness cut off for all modelled seams is 0.3m.
parameters	• The coal has been classified as high volatile sub-bituminous B rank and is likely to be
	marketed as suitable for Iron sand metallurgical processing and as thermal coal. A 30% ash
	using a 25% block ash (db) cut off
	 A Lerchs-Grossman pit optimisation is used as a tool to identify Coal Resources that have
	reasonable prospects for future economic extraction. A 0.8 revenue factor shell has been used.
Mining factors	Geotechnical parameters for cut slope design were developed based on the Rotowaro Mine's
or	historical cut slope performance, slope back analysis and laboratory testing of material strength
assumptions	parameters. Slopes are designed to comply with a Factor of Safety (FoS) that exceeds 1.2 and
	within BT risk volume criteria, which is a function of the probability of failure and potential
	failure dimensions. Stable slope angles are defined for each domain and material type prior to
	running a pit optimisation.
	 Minimum search inconess is set at 0.5m. Only coal that falls within an ontimised 0.8 revenue factor nit shell is reported as Coal.
	Resources.
	• The following mining recovery parameters have been assumed for estimating coal resources:
	 Minimum recoverable coal thickness 0.3m.
	 Unworked coal seam recovery 100%.
	 First worked coal is depleted by 25% underground extraction.
Motollurgiaal	• Pillared coal is depleted by 57%.
factors or	Limited test work has been conducted to date on the properties of the coal pertaining to combustion potential, ash fusion temperatures and Hardgrove Grindability Index (HGI). This
assumptions	will be determined during the current infill drilling and PES project but is currently assumed the
	coal properties are in line with that produced at the adjacent Rotowaro mine.
Environmental	• There are a number of Resource Consents regarding land use, air, and water quality that will
factors or	be sought at the end of the PFS, and any issues will have mitigation factors applied in the
assumptions	application process.
	• Mining has occurred at Rotowaro North Extension between 1927 and 2004, with no record of
	acid mine drainage (AMD).

Criteria	Commentary
	 It is not anticipated that the Rotowaro North Extension area will have rock types capable of generating acid rock drainage (ARD) based on historical compliance when the area was in operation and looking at the discharges currently occurring on the site. In consultation with planning and legal experts the Competent Person believes there are reasonable prospects for the project to meet all relevant legislation to achieve regulatory approvals to allow for economic extraction of the resource.
Bulk density	 Bulk density has been estimated using the company's relative density (adb) dataset for Rotowaro coal, adjusted using the Preston Saunders method to estimate in ground bulk density. Density = ((0.0001 x (as_ad²)) + (0.0087 x as_ad) + 1.2715).
Classification	 BT classifies resources using a multivariate approach. Coal Resources have been classified based on geological and grade continuity balanced by relative uncertainties surrounding historical underground extraction, and proximity to faults. The result reflects the Competent Person's view of the deposit. Closely spaced drillholes with valid coal quality samples (point of observation) increases confidence in resource assessments. The confidence is reduced by: A block being within an area of historical underground workings due to extraction rate uncertainty. A block lying in an area where structure dip is greater than 20° due to proximity to large faults. Faulting can impact coal thickness and quality. A block lying within an area with thin or splitting seams resulting in uncertainty of geological continuity. Where a seam is thin or is splitting, a small change in thickness can have a large impact to reported vs actual coal tonnages and qualities. Essentially, in an area that is not affected by the above conditions, a distance to nearest sample of less than 75m would be classified as Measured, less than 150m is classified as Indicated and less than 500m would be classified as Inferred.
Audits or reviews	• The current resource model used for Coal Resource estimation and reporting has been reviewed by the Competent Person.
Discussion of relative accuracy/ confidence	 Based on the data available, the degree of accuracy of this resource statement is considered moderate for the Rotowaro North resource. No reconciliations have been carried out due to not recent production figures being available. Statistical comparisons between the resource block model and the coal quality data set have been carried out and are within expected ranges

Appendix A:



Figure 1: Location map of Rotowaro North



Figure 2: Regional Geology



Figure 3: Rotowaro North permits within the resource model area



Figure 4: Land Access



Figure 5: Plan showing the drilling dataset used to produce the resource model



Figure 6: Historic underground workings and sterilisation polygons



Figure 7: Plan showing the resource classification polygons for the KK seam



Figure 8: Plan showing the resource classification polygons for the RM seam



Figure 9: Plan showing the structure contours of the KK coal seam floor



Figure 10: Plan showing Kupakupa seam thickness contours over the model area



Figure 11: Plan showing the full seam ash isopachs of the KK coal seam



Figure 12: Plan showing the full seam sulphur isopachs of the KK coal seam



Figure 13: Plan showing the structure contours of the RM coal seam floor



Figure 14: Plan showing Renown seam thickness contours over the model area



Figure 15: Plan showing the full seam ash isopachs of the RM coal seam



Figure 16: Plan showing the full seam sulphur isopachs of the RM coal seam

JORC Code, 2012 Edition – Table 1 Report for Maramarua 2023

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling	• Multiple campaigns of data acquisition have been conducted in the Waikato Coalfield over the
techniques	past century.
	• The resource modelling drillhole database contains 1,046 drillholes. 663 of these drillholes are
	contained within the resource model area.
	 432 drillinoles were drilled between 1945 and 1960 and were wash drilled, with chip samples being logged by the driller.
	Since 1977 the majority of drillholes have had coal seams cored. Overburden and
	interburden was typically wash drilled. Coal core was logged by geologists.
	• Sampling of coal core for coal quality testing has been conducted since 1977, typically
	using HQ (63.5 mm diameter) coring techniques.
	• Since 2014 air-core (AC) drilling has been used to infill areas to obtain more detailed
	structural information, complemented by diamond core for reliable coal quality analysis.
	• Coal samples are assigned unique identifiers and are sent to the laboratory with a chain-of-
	custody note and tracked using paper, e-mail and acQuire software.
	Core recovery recorded in the field is validated and adjusted if required using downhole acceptive set loss during acre lossing and compliant in come coses intervals of lost core (coded
	as NR - Not Recovered, or $I_{C} = I_{OST}$ Core) have been included inside coal quality samples
	 Composite samples by the laboratory are produced from individual coal plies that are thickness.
	weighted.
	• Ply samples were generally taken over intervals no greater than 0.5m in length, as per BRL
	sampling standards.
	All analytical data has been assessed and verified before inclusion into the resource model. A
	suite of downhole geophysical logs including density, natural gamma, calliper, sonic, dipmeter,
	acoustic scanner and verticality have been run in most drillholes since the late 1970's. All tools
	conducted by a contractor (Weatherford and its predecessors)
Drillina	Open hole (OH) drilling with a 4" or 6" tungsten drag bit was typically used to drill through
techniques	overburden, and triple tube core (TTC) barrels were used to recover HQ sized (63.5mm diameter)
	coal core.
	In recent times, diamond drillholes have been infilled with AC drillholes. AC samples are logged
	onsite and provide coal seam roof and floor intercepts.
	The 1950's (pre-opencast) drillholes were entirely OH drilled.
	Core is not oriented. Downhole strata orientations are taken from downhole wireline geophysical
	 Several historical drillboles are included in the resource modelling database
	 Drillholes that have no verifiable location, lithology log or survey, or contradict adjacent reliable
	data, are considered unreliable and are excluded from the resource modelling database.
	 A total of 97 drillholes were excluded from structural modelling.
Drill sample	• Core recovery was measured by the logging geologist for each driller's run (typically 1.5m in
recovery	length) in each drillhole.
	• In open holes and open hole sections, cuttings are typically sampled at 5m intervals in
	overburden lithologies, or when there is a change in lithology noted by the driller. Cuttings are
	logged, and stratigraphic logs for these intervals are corrected using downhole wireline
	geophysical logs.
	 core was obtained by right ric (bs.shift) diameter coning techniques providing good core recovery (averaging approximately 90%)
	 Recovery standards for target horizons are generally high and are typically greater than 90%.
	Re-drills are required if there is less than 90% recovery in the coal seam when drilling with TTC.

Criteria		Commentary
Logging	•	Bathurst Resources Limited (BRL) has developed standardised core logging procedures (BRL Coal Logging Procedures), and all core logging completed by BT has followed these procedures. All recent drill core has been geologically and geotechnically logged by logging geologists under the supervision and guidance of experienced exploration and geotechnical geologists. All TTC samples are logged in a high level of detail, down to a centimetre scale. Quantitative logging for lithology, stratigraphy, texture, hardness, Rock Quality Designation (RQD) and defects is conducted using defined material code types based on characterisation studies and mineralogical assessments. Colour and any other qualitative comments are also recorded. All drill core was photographed prior to sampling. Depth meter marks and coal ply intervals were noted on the drill core in each photograph. Wash drill samples are washed in a sieve to leave rock chips, which are quantitatively logged by assessing lithology. Samples were photographed. Where drillholes were geophysically logged, the logs were used to confirm and correct geological logs. Validation and, if required, correction of geological logs against geophysics is undertaken to ensure accuracy and consistency. Verticality, calliper, density, and natural gamma tools are checked regularly with standard calibration assemblies. The density calibrations are performed routinely with blocks of known densities (aluminium and/or water). A geophysical log quality report is usually generated by the logging technician for each drillhole.
Sub-sampling techniques and sample preparation	• • • • • • • • • •	For all exploration data acquired by BT, an in-house detailed sampling procedure was used (BRL Coal Sampling Procedures). Sampling and sample preparation are consistent with internationally accepted coal sampling and sample preparation methodologies. No splitting of core is undertaken in the field or during sampling. Typically, recovery from TTC is greater than 90%. Sample interval and recovery recorded in the field by drillers is validated and adjusted if required using geophysical logs during core logging and sampling. Bagged OH samples are washed in a sieve to remove drilling mud, leaving rock chips for logging. OH samples are not sent to the laboratory for coal quality analysis. Sample selection is determined in-house and is documented in a core sampling procedure. Clean coal has generally been sampled in plies 0.5m in length (some thicker plies have been sampled in older drillholes). Where potentially high ash coal intervals and partings are noted in core or in geophysical logs, these were sampled separately. Samples are placed into labelled bags to ensure proper chain of custody, and then transported to the laboratory for testing. The laboratory continues with the chain of custody requirements. Sample preparation is undertaken according to laboratory and ISO or ATM standards. HQ core diameter is considered to provide a sample of sufficient volume to be representative of the in situ material and provides adequate sample mass to undertake the variety of raw coal tests together with composite testing when required.
Quality of assay data and laboratory tests	•	 SGS and Verum (Formerly CRL, with ACIRL Australia, Newman Energy and Eurofin ELS Ltd subcontracted for specific tests) laboratories are used to undertake physical and chemical testing and use Industry Standards for all coal tests and systematic Quality Assurance/Quality Control (QA/QC) procedures for all work. Both laboratories hold accreditation by International Accreditation New Zealand (IANZ). The processes employed are appropriate for coal sample analysis. Results are reviewed in-house to ensure the accuracy of the data by the Project Geologist. The laboratories have been inspected by BT's personnel. Tests include: Chemical Analysis Loss on air drying (ISO 13909-4). Inherent moisture (ASTM D 7582 mod). Ash (ASTM D 7582 mod). Fixed carbon (ASTM D 7582 mod). Sulphur (ASTM D 7582 mod). Sulphur (ASTM D 4239). Calorific value (ISO 1928)

Criteria	Commentary		
	 Mean maximum reflectance all vitrinite (RoMax) (laboratory standard). 		
	 Chlorine in coal (ASTM D4208). 		
	 Gieseler plastometer (ASTM D 2639). 		
	 Forms of sulphur (AS 1038 Part 11). 		
	 Ash fusion temperatures (ISO 540). 		
	 Ash constituents (XRF) (ASTM D 4326). 		
	 Ultimate analysis (ASTM D3176-09). 		
	Rheological and Physical		
	 Hardgrove grindability index (ISO 5074, ASTM D409-02). 		
	 Relative density (AS 10382111-1994). 		
Verification of	• All diamond core samples are checked, measured, and marked up before being logged to a high		
sampling and	level of detail.		
assaying	• Every discrepancy between the measured length of core and the driller's length marked on the		
	core blocks is investigated and corrected prior to sampling, if necessary.		
	• Quantitative logging for lithology, stratigraphy, texture, hardness, RQD and defects is conducted		
	using defined material code types based on characterisation studies and mineralogical		
	assessments to the nearest centimetre. Colour and other additional qualitative comments are		
	also recorded.		
	• Raw logs, as well as sample dispatch details, are logged onto paper then transferred into the		
	acQuire database in accordance with BRL standards.		
	• Assessments of coal intersections are undertaken by an internal or contract geologist, and by a		
	senior geologist. Geophysical logs allow confirmation of the presence (or absence) of coal seams		
	and accurate determination of coal seam roof and floor contact. Geophysical density		
	measurements are used to guide sampling and identify high ash bands.		
	• Downhole wireline geophysical logs (dual density and gamma) are analysed and used to validate		
	or correct geological and sample interval logs to ensure accuracy and consistency, where		
	required.		
	• Samples for CV, sulphur and proximate analysis are split into two samples to provide a duplicate		
	sample. The duplicates are tested with a repeatability level in accordance with the standard		
	method. Reference standards are used to confirm the calibration of each test. The reference		
	standards are plotted by the laboratory to correct and biases or trends. The laboratory also		
	participates in external quality control auditing on a regular basis. The results of these audits are		
	shared with BT.		
	• Sample sheets are developed in-house and receive a final check by the laboratory prior to		
	testing. BRL/BT geologists with input from marketing technical experts provides guidance on the		
	specific testing regime to be undertaken on both ply and composite samples.		
	Since 2006, all coal quality data has been directly submitted and stored in electronic format using		
	acQuire database software. All data provided by the coal laboratory is reviewed before		
	acceptance into the database.		
	• Sample assay results have been cross-referenced and compared against lithology logs and		
	downhole geophysical data. Results are also inspected by experienced geologists and compared		
	with expected values utilising known coal quality relationships for the Waikato Coalfield.		
	Anomalous assay results were investigated and, where necessary, the laboratory was contacted,		
	and a re-test was undertaken from sample residue.		
	• Where drillholes were geophysically logged, verification of seam depths and quality is made		
	through analysis of the geophysics. Where no geophysical logs are available, this is done by		
	physical assessment of the core and/or other drillhole samples.		
	Historical data is stored electronically, in addition to incorporation into the acQuire database. All		
	coal quality data has been validated and transferred into the acQuire database.		
	Twin drillholes have not been used to test reliability of historic drilling.		
Location of	All recent drillholes have been surveyed by BT qualified professional surveyors.		
data points	Holes drilled prior to 1997 were surveyed using conventional survey methods with unknown		
	precision. Since 1997, drillhole collars have been surveyed using GPS technology and are		
	located within +/- 40mm in three dimensions.		

Criteria	Commentary
	• All Maramarua drillhole collars are surveyed in Mt Eden 1949 co-ordinate system, with Auckland
	1946 mean sea level datum (MSL).
	• The topographic dataset consists of a digital terrain model (DTM) constructed from an airborne
	LiDAR survey (accurate to +/- 0.2m) collected for the whole of the Maramarua site in May 2012.
	The DTM has been supplemented by GPS survey data (+/- 40mm accuracy) and aerial drone
	photogrammetric survey.
	• Surveyed elevations of drillhole collars are validated against the LiDAR topography and ortho-
	corrected aerial photography. A number of historic drillholes drilled prior to accurate survey have
	had the collar RL updated to match the lidar topography.
	 Drillholes with downhole geophysics are surveyed for deviation with the verticality tool (+/- 15°
	azimuth and +/- 0.5° inclination).
Data spacing	Drillholes are variably spaced (less than 50m to greater than 300m) depending on target seam
distribution	depth, geological structure, and topographical constraints.
usubulon	Average diffinities spacing within the modelled area is 120m. Within the cross containing report resources the drillhole opening reduces to 70m encoing
	• Within the areas containing report resources the drillhole spacing reduces to 70m spacing.
	• The current difficulties spacing is deemed sufficient for coal search correlation purposes, with resource confidence reflected in the classification
	 Sample composites are generated in Mantek's Vulcan™ software prior to building the coal guality.
	model The composite samples are not weighted
Orientation of	In the Maramarua area the strata dips approximately 10 to 15° with localised increases
data in	particularly adjacent to faults. All drillholes are designed to intercept the target coal seams or
relation to	some other key geological structure (i.e. faults). Several inclined drillholes have been completed
geological	to intercept normal faults in the area.
structure	• Targeted infill drilling is utilised in areas of prospective mining to decrease coal quality sample
	spacing.
	• The low angle of strata dips means vertical drillholes are the most successful in achieving desired
	high angle intercepts of the coal seams.
	• The modelling of the deposit uses holes both with and without reliable verticality data. Drillholes
	without verticality data are considered to be vertical.
	• Vertical drilling is the most suitable drilling method of assessing the Coal Resource at
0	Maramarua.
Sample	• Sampling was conducted in accordance with the BRL standard 'Coal Quality Sampling and
Security	Analysis.
	Core is removed from the difficulte and put into core splits. Core is wrapped in clear-wrap to retain natural moisture and put into core boxes. Additionally, coal core is wrapped in cling film before
	placing in clear-wrap to assist moisture retention
	Core is removed from the clear-wrap at the core logging facility where it is photographed logged
	sampled and then re-wrapped.
	• Coal samples are placed into labelled bags that are transported directly to the laboratory
	accompanied by soft and hard copies of the sample submission to insure proper chain of custody.
	• Chip samples are placed into bags labelled with drilling intervals by the driller and transported to
	the core logging facility for logging. Chip samples are disposed of once logged.
	• It is not considered likely that individual coal samples face a risk of theft or sabotage as coal is a
	bulk commodity with little value for small volumes of coal from drill core.
	Laboratory data is imported directly into an acQuire database, with no manual data entry at either
	the laboratory or BRL.
Audits or	Internal and external reviews (Golder and BRL) have reviewed the geological data available and
reviews	consider the data used to produce the resource model is reliable and suitable for the purposes
	or generating a Coal Resource estimate to the extent that the Coal Resource estimate has been
	Classifieu.
	Integrity of all data (unimole, geological, survey, geophysical and laboratory information) is reviewed by the resource geologist before being incorporated into the BT's controlliced detabase.
	system.

Criteria	Commentary
	 Internal audits are conducted to verify that samples are being logged and sampled in accordance with BRL standards and procedures. All corrections and changes made to the database are recorded.

Section 2 Reporting of Exploration Results

Criteria	Commentary		
<i>Mineral tenement and land tenure status</i>	 The Maramarua resource area includes a mixture of Crown and privately owned coal rights. Coal Mining Permit (CMP) 41821 held by BT in the Maramarua Coalfield at Kopako comprises 274.3 hectares and was granted on 21 February 2005. It is due to expire 31 March 2037. BT Mining is 65% owned by BRL. Historical Solid Energy NZ Limited (SENZ) mining operations such as the KCQ1, K1 and K2 opencast pits are located within this CMP. The minerals underlying CMP 41821 are owned by the Crown, and BT owns or has access to the majority of the land. BT currently leases land adjacent to CMP 41821 from the landowners. 		
Exploration done by other parties	 The previous owner SENZ and its predecessors completed all exploration in the area from 1986 to 2017. However, there have been earlier periods of work that have contributed to the understanding of the Coal Resource. These exploration programs include an extensive OH programme undertaken between 1952 and 1957 prior to the commencement of open cut mining. The New Zealand Coal Resources Survey (NZCRS) drilled 122 holes in the Maramarua Coalfield between 1977 and 1980. The majority of the NZCRS drillholes were also geophysically logged and the campaign included two seismic reflection programmes. 		
Geology	 The stratigraphy of the Maramarua Coalfield is similar to that of other northern Waikato Coalfields, being dominated by thick, Cenozoic, Te Kuiti Group sediments which unconformably overlie Mesozoic basement rock of the Newcastle Group. The Waikato Coal Measures, and later Te Kuiti Group sediments, were deposited in a broad north to north-northwest trending elongated trough which appears to have been controlled by structural trends within the underlying Newcastle Group basement rock. The Waikato Coal Measures are present over the entire coalfield with a thickness of up to 134m. The Kupakupa main seam (KK) is located near the base of the coal measures, is the most widespread and thickest seam, and ranges in thickness ranging from less than 1m to 15m. The Kupakupa seam has up to two upper seams (KU1, KU2) above the main KK seam. These seams are discontinuous and generally less than 1m thick and are not included in the resources reported. The Kupakupa seam also has up to four lower seams (KL1, KL2, KL3, KL4) located 1m to 3m below the main KK seam. These lower seams like the upper seams are discontinuous and generally less than a metre thick. The generalised structure of the coalfield dips at 15° north-northwest and flattens out towards the Miranda Fault due to fault drag effects on the hanging wall. Two major faults dominate the deposit: The Foote Fault zone is interpreted to be a large displacement fault striking north-northeast that is downthrown to the southeast with an estimated throw of 150m. The Miranda Fault is a northeast striking fault, with displacements of up to 60m to the southeast. Several other smaller displacement faults (less than 10m), which generally strike parallel to the two major faults, are interpreted to exist throughout the coalfield. Fault dips have been interpreted to be 65°, based on fault zone intercepts in drillholes. 		

Criteria	Commenta	ary					
Drillhole	• 1019 d	rillholes are located within the Mar	amarua a	area, with	27 synthetic	holes m	aking up 1,046
Information	holes in total within the project area. 547 of the drillholes pass validity measures and are used to						
	build the structure model.						
	A sumr	nary of the drilling database is sho	wn below	/ Drilling	# Holos	#	Goophysics
	Tears	Collar ID Series	# Holes	Method	in	# Holes	Available
			in		Structure	in Coal	
			Project Area		Model	Quality Model	
	1945-60	1, 3, 1735-5408	568	W	290	0	0
	1977-80	8004-8445; 9000-9124	149	W/C	56	64	35
	1982- 1984	9125-9160	20	W/C	0	9	9
	1986- 1987	9161-9214	54	W/C	21	14	51
	1993- 1994	9215-9248	34	W/C	26	29	0
	1996	9249-9252	4	С	2	0	0
	1996	9278-9290	13	W/C	12	11	0
	2002	9253-9264	12	W/C	5	0	0
	2005- 2006	9265-9271; 9272-9277; 9291-9298	19	W/C	5	11	19
	2007 and 2012	9299-9328	23	W/C	16	17	16
	2008 and 2011	9321-9322; 9303; 9323-9324	5	W/C	2	1	4
	2009	K2sump	1	W/C	0	0	0
	2014	9329	1	W/C	1	1	0
	2015	9330-9341	12	W/C	10	8	0
	2017-18	9342 - 9383	42	AC	37	0	0
	2018	9384 - 9396	13	AC/C	10	9	0
	2019	17599 - 17605	7	AC/C	3	6	2
	2020	17606 - 17625	20	W/C	18	3	19
	2022	17629 - 17650	22	AC/C	12	0	0
	synthetic	numerous	27	SYN	19	0	0
	Iotal		1046		545	183	155
Data aggregation methods	Coal ply samples are numerically normalised into 0.5m long composite samples for Coal Resource estimation.						
	• The resource model is built as a block model with 0.5m block thicknesses for coal blocks. Normalised coal sample data is used to grade estimate the block model.						
	• Some full seam composite samples have been analysed at the laboratory for thorough analysis						
	of marketing attributes including ash constituents, forms of sulphur, ash fusion temperatures, and						
		e analysis. These composite samp	nes are no	ut used in	grade estim	iation.	
Relationshin		ratigraphic nature of cool maccu		onte the		in a har	izontal or auto
between	Ine stratigraphic nature of coal measures presents the coal seams in a horizontal or sub- horizontal plane						
mineralisation	 The Maramarua Resource has a general dip of 10 to 15° to the porth-porthwest 						
widths and	 Drillholes are generally oriented vertically (90°) and are designed to intercent target seams at a 						
Intercept lenaths	high angle for drilled seam thickness to represent true seam thickness as closely as possible.						
longuio	Several drillholes have been inclined to target the major fault zones but have been excluded from						
	the structure model.						
	• Drillholes can deviate from the vertical. Drillhole deviation is measured during downhole						
	geophysical logging using the verticality tool and incorporated into modelling workflows where						
		a was acquired.	oss utilia	a vortical 4	hicknoss		
Diagrams	Aigoritr Diagram	ins used for modelling coal thickn		e vertical t	INICKNESS.		
viagranis	 Diagrai 	his can be found in the Appendix A	IOL each	i oi the tol	iowing:		

Criteria	Commentary
	 Location map. Geological QMap. Map showing coal rights. Map showing land rights and pit shell boundaries. Map showing exploration drillholes. Map showing resource classification within the optimised pit shell. Map showing reserve classification within pit shell designs. Map showing Kupakupa Floor contour distribution. Map showing Kupakupa ash distribution. Map showing Kupakupa sulphur distribution.
Balanced reporting	 No exploration results are being presented in this Table 1, rather this report is focused on advanced projects that have been defined by geological models with associated Coal Resource estimates completed. The exclusion of this information from this report is considered to not be material to the understanding of the deposit.
Other substantive exploration data	 The Coal Resources reported in this report relate to the area in and around and existing operating coal mine. Groundwater has been encountered in most drillholes. Piezometers have been installed in 40 drillholes to monitor changes in groundwater levels through various stages of the mine life. Relative density of coal has been determined for 615 samples from the Maramarua project area. The median density (on an air-dried basis) is 1.36t/m3. The KK and KL seams use a relationship between ash (adb) and relative density to calculate the air-dried density. The Preston Sanders equation is used to determine in ground density of coal. Any blocks that do not have moisture values estimated adopt the default relative in situ coal density of 1.3t/m³. Geotechnical and rock characteristics of the overburden units have been calculated using laboratory test data to determine strength parameters (such as UCS, shear box and ring shear tests) and empirical classifications (RMR, GSI and Hoek-Brown) and back analysis of existing cut slopes. A program of drilling has recently been undertaken targeting basement rock at the site to test its potential use as an aggregate but have not been used in the coal resource model.
Further work	 Future exploration drilling is proposed to infill spatial gaps in coal quality data and further delineate fault locations and displacements within the proposed mining areas. Further environmental studies and subsequent consent application work is expected to be undertaken around the proposed M2 pit area.

Section 3 Estimation and Reporting of Mineral Resources

Critoria	Commentary
Gineria	Commentary
Database integrity	 All historical and legacy datasets have been thoroughly validated against original logs and results tables. Where reliability of the data is poor the data is excluded from the modelling process. BRL utilises an acQuire database to store and maintain its geological exploration dataset. All core logging data is generally recorded on paper logs then transferred directly into a central database using acQuire software. The acQuire database places explicit controls on certain data fields as they are entered or imported into the database, such as overlapping intervals, coincident samples, out of range sample values, standardised look-up tables for logging codes. All changes to the database are tracked and archived. Data correction and validation checks are undertaken internally before the data is used for modelling purposes. Manual data entry of coal quality results is not required as results are imported directly from laboratory results files. Validation of historical wash drilled drillholes has been carried out by comparing coal seam depths and thicknesses with those of adjacent more reliable cored drillholes in cross-section.

Criteria	Commentary		
	Coal quality data and geophysical logs have been used to validate more modern (post 1977) drillholes, to provide confidence in coal seam depths and thicknesses.		
Site visits	• Eden Sinclair (the Competent Person) has visited the Maramarua site and is familiar with the site's geology, the geological data used in the resource estimate and the processes used to build the resource model.		
Geological interpretation	• External consultants (Golder) have reviewed the modelling processes in use by BRL to develop their resource model and Coal Resource estimates.		
Dimensions	 Golder has confidence in the methodologies used by BRL for geological modelling and the interpretation of the available Maramarua Project data. Confidence varies for different areas, and this is reflected in the resource classification. Confidence in interpretation of geological stratigraphy, structure and seam correlation/continuity is variable across the permit area, and differing seam correlation interpretations exist in some areas. This is typically a result of the complex structural environment, rather than the presence of numerous seam splits and discontinuous seams. Some residual uncertainty of quality and confidence of historical drilling data remains despite thorough evaluation of the historical logs and drill locations. 		
Dimensions	 The Maramarua Resource model is approximately 2.6km in length and 2.6km in width, covering approximately 680 hectares. Within this area there are two main areas of focus for future mining – K1 and M1 areas. As discussed above, the coal seams are generally laterally continuous, however thickness can vary over short lateral distances due to the highly faulted nature of the deposit. The main Kupakupa (KK) seam is the target in this area. Seam thickness ranges from 1m to 15m. There are also isolated areas of KL seam which have been identified as an economic resource within the RE1.0 pit shell. 		
Estimation	resource within the RF1.0 pit shell.		
and modelling	• All available exploration data has been validated and, where reliable, has been used to create a 3D geological block model for Coal Resource estimation and classification		
techniques	 All exploration drilling data is stored in an acQuire database and exported to a Maptek Vulcan[™] 		
-	(Vulcan) drillhole database.		
	 Interpretive design data is stored within Vulcan in various layers. 		
	• The model is domained further into four fault blocks using the large faults as bounding surfaces.		
	 Each domain is modelled for structure and grade separately. 		
	 Vulcan is used to build the structure model. Grid spacing is 10m x 10m. 		
	• Maptek's Integrated Stratigraphic Model (ISM) module is used to produce the structure model.		
	Structural surfaces for coal seams, Te Kuiti Group rocks (Pukemiro Sandstone, Glen Afton Claustene, Mangakatuku, Siltatene, and Whaingeree, Siltatene), and the Waitemate Group rock		
	and floor are modelled using an algorithm to produce grids on a 10m-by-10m basis, in order to		
	best define the structure in the project area.		
	 The 'Hybrid Method' was used to develop the structure model. This method triangulates a reference surface and then stacks the remaining horizons by adding structure thickness grids. Thickness grids are created using a triangulation modelling algorithm. Design data from other horizons is incorporated into the final grid structure. Modelling parameters for the structural modelling are as follows: 		
	Reference grid surface (KK floor) by Hybrid Stacking:		
	 Method is Triangulation. 		
	 Trend Order is 1 (Linear). 		
	 Smoothing is 9. The movimum triangle length is 500m. 		
	 I ne maximum triangle length is 500m. Surfaces are splined 		
	Grid thickness modelling by Hybrid Stacking:		
	 Method is Inverse Distance. 		
	 Trend Order is 0 (Horizontal Planar). 		
	 Smoothing is 9. 		
	 Power 2.0 Max number of interpolative points 10 		

Criteria	Commentary
	 Search Radius is 500m.
	 Number of search sectors 0
	 Sector angle offset 0
	Structural grids are not cropped.
	• Structure grids are checked and visually validated before being used to construct the resource block model.
	 A conventional block model is generated using the stratigraphic structure grids for each domain, along with end of month site survey combined with lidar topography surface, and other mining related surfaces. The block dimensions are constructed at 10m x 10m. The maximum vertical thickness for coal blocks is 0.5m. Vulcan is used to build the block model and to estimate grade. The process is automated using a Lava script. Grade estimation is performed utilising Vulcan's Tetra Projection Model via the Univariate Estimation editor. Coal quality data is modelled using inverse distance squared block estimation. The estimation is completed over three runs for with increasing search distances for all coal
	seams.
	 The coal seams are grade estimated in four fault domains. Volatile matter, ash, and sulphur coal qualities are estimated on an air-dried basis. Moisture is estimated on an air-dried basis.
	• Ash, moisture, volatile matter, and sulphur are estimated simultaneously.
	• Estimated block values are determined as part of the modelling workflow and are reviewed by a
	senior geologist to ensure no anomalies exist and that original data is honoured.
	• Historical coal winning limits produced following mining of pits are available, and these have been considered when modelling resource areas.
	 Geological interpretation, including the modelling of both major and minor faulting in the area has been considered when building structural grids. Allowances are made in the surfaces for coal loss through fault zones, with the volume of coal loss dependent on the dip and displacement of the fault.
	 It is expected other, currently unmapped, minor faults will be discovered during further mining; with their expected small displacements resulting in minimal change to the resource estimation.
	 No deleterious elements with economic significance have been identified in Maramarua coal.
	• Over the past three years, the mine has consistently produced coal products suitable for iron sand metallurgical processing and thermal processing heat. No other by-products have been considered at this stage.
	 Validation of data during modelling occurs at different process stages:
	 Review of historical drillhole datasets prior to modelling to ensure that the original dataset is in order.
	 Review of drillhole data using Vulcan data validation tools.
	 Review of drillhole coal seam codes to ensure correct seam code correlations. Structural grids are checked in cross section both along strike and down dip to check the grids are honouring drillhole data.
	 Once structural grids have been produced from drillhole data they are analysed to ensure they honour drillhole data. Contour plans are produced to ensure modelled values
	represent original data.
	 Various methods have been used to check the validity of the block estimation. This includes manual inspection of the model, Quantile Quantile (QQ) plots of block model qualities vs the coal quality database and visual comparison tools.
Moisture	· Testing work has been undertaken to determine moisture levels in drillhole core with total
	moisture and inherent moisture typically being measured.
	• Total moisture is modelled using a constant 5.0% loss on drying (LOD) across the deposit.
Cut-off parameters	 The coal has been classified as sub-bituminous C rank and is marketed and sold as coal products suitable for iron sand metallurgical processing and thermal coal. A maximum ash cut-off of (20% air-dried basis for KK and 50% air-dried basis for KU & KL seams) has been applied to all complex used in grade estimation of the recourse model.
	samples used in grade estimation of the resource model.

Criteria	Commentary		
	 No lower ash cut-off has been applied. Coal Resources have been defined as economic by using a Lerchs-Grossman optimised pit shell using budgeted mining costs and contracted coal sales values. The revenue factor (RF) 1.0 shell from the optimisation has been used. No resources have been reported outside of this pit shell. This optimised pit shell is used to determine Reasonable Prospects for Eventual Economic Extraction (RPEEE). 		
Mining factors or assumptions	 The target (KK) seam is considered suitable for opencast operations due to seam depth, thickness and dip. The selected mining method has been chosen based on long term experience of opencast mining the KK seam. Roof and floor losses are not accounted for in the Coal Resource estimate. Only coal that falls within an optimised RF1.0 pit shell is reported as Coal Resources. Costs and revenue parameters used in the pit optimisation are based on the 2020 Maramarua budget and include allowances for royalties, commissions, mining costs, coal processing and administration, and basic mining and processing losses. 		
<i>Metallurgical factors or assumptions</i>	 The KK and KL seams at Maramarua will provide coal products suitable for iron sand metallurgical processing and thermal coal. This has been determined by past performance of coal from the area for thermal purposes, and by average coal quality values. Studies have been carried out in the past to analyse combustion potential, ash fusion temperatures and Hardgrove Grindability Index (HGI), to confirm the suitability of the coal for thermal uses. Currently no wash plant is used at the Maramarua operation. The Run-of-Mine (ROM) coal produced is processed through a crushing/screening plant where losses and dilutions are minimal. 		
Environmental factors or assumptions	 At Maramarua, waste rock is transported and stored in an engineered landform to backfill a historical opencast pit. The low sulphur levels in the coal measures indicates acid or metalliferous drainage will not occur. BRL (through BT) hold resource consents regarding land use, air and water quality for the current operations. It is reasonably expected that any modifications to existing agreements or additional agreements required to operate in this area can be obtained in a timely manner. 		
Bulk density	 The KK and KL seams use a relationship between ash (adb) and relative density to calculate the air-dried density. The Preston Sanders equation is used to determine in ground density of coal. Any blocks that do not have moisture values estimated adopt the default relative in situ coal density of 1.3t/m³. 		
Classification	 BRL classifies Coal Resources at Maramarua using a multivariate approach. Coal Resources have been classified on the basis of geological and grade continuity balanced by relative uncertainties surrounding, proximity to faults and thinning coal. Closely spaced drillholes with valid coal quality samples (point of observation) increase the confidence in resource assessments. The confidence is reduced by: A block lying in an area where structure dip is greater than 15° due to proximity to large faults. Faulting can impact coal thickness and quality. A block lying within an area with thin or splitting seams resulting in uncertainty of geological continuity. Where a seam is thin or is splitting, a small change in thickness can have a large impact to reported vs actual coal tonnages and qualities. Closely spaced drilling with valid samples increases the confidence for each seam in resource assessments. 		
Audits or reviews	 The resource model reported has been reviewed by the Competent Person. In 2020, Golder was engaged to review and rebuild the geology resource model. The model has since had further review and refinement with additional data acquired from exploration projects . This review included adding grade estimation for the KL and KU seams and added in further detail around the E-W trending fault in the KCQ pit including the use of design data. Coal quality estimation processes have also been improved, along with adding density data to the model. 		

Criteria	Commentary
Discussion of relative accuracy/ confidence	 The Competent Person has reviewed the Coal Resource estimates and has visited the existing operations. The Competent Person has examined the methodology used to estimate the resources and is satisfied that the processes have been properly conducted. The estimation methodology is generally in accordance with industry practice and the estimates can be regarded as consistent with the requirements of JORC 2012. Geostatistics has aided the definition for the Resource estimates search estimation ranges and drillhole spacing required for each resource classification. Geostatistics has been used on the Maramarua dataset in the past to review geospatial relationship of coal thickness and quality data. The Resource is declared as coal in-ground and potentially mineable resources. The current resource model has generally been in line with production data to date. Reconciliation for the FY21 year resulted in coal production within 10% of that estimated by the model. No coal quality reconciliation has been undertaken.

Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	 The Coal Resource estimates used are the Coal Resource estimates undertaken by the Maramarua Mine BRL geologist as outlined in Section 1-3. A 3D Resource block model, using Vulcan[™] software, of topography, structure and quality are used for in situ Resource definition. Coal Resources are inclusive of Coal Reserves. Maramarua is an operating open pit coal mine. A decrease in the previously reported Maramarua Coal Reserves is primarily attributed to the following changes: Depletion by surface and stockpile mining.
Site visits	 Sue Bonham-Carter (the Competent Person) is a consultant to BT Mining and visits the project area on a regular basis. Ms. Bonham-Carter has over 30 years' experience working in surface coal mines.
Study status	 Maramarua is an operating mine project. The reportable Coal Reserve is based on the life of mine (LOM) plan and has resulted in a mine plan that is technically achievable and economically viable, and that material modifying factors have been considered. In 2020 the geology and geotechnical models were updated and this has resulted in revised reserve pit shells which are still relied upon to report Coal Reserves. In 2023 the geology model was updated; this has not resulted in any changes to the reserve pit shells.
Cut-off parameters	 No additional quality cut-offs have been used in the determination of Coal Reserves in addition to what has been used in the declaration of Coal Resources (Section 3). Economic pit extents were determined using Lerchs-Grossman techniques based on site budgeted mining costs, geotechnical slope parameters and contracted coal sales values All seams are reported. The KU and KL seams are only present where there they have been grade estimated. The Kupakupa (KK) seam is the primary target seam, KL coal is also targeted within the M1 pit.
Mining factors or assumptions	 Pit limits have been determined using pit optimisation techniques, with restrictions for current land and mineral access All mining is via open cut methods. Mining equipment is hydraulic backhoes/mechanical drive rigid body trucks and articulated trucks. Pit slopes for the revised K1 design and the M1 pit have been geotechnically assessed and found to be in accordance with BRL stability criteria. Coal is present in a thick seam and is easily distinguishable from the surrounding waste rock. Coal quality has been shown to be consistent both laterally and within the seam. No waste dilution has been used in the determination of the Reserves.

Criteria	Commentary
	• 0.075m of coal is assumed lost from both the roof and the floor (0.150m in total) during mining
	to ensure no waste dilution within the coal.
	 Minimum mining widths are to suit 90t capacity trucks and are typically >50m.
	Inferred Coal Resources have not been included in the Coal Reserves.
	• The selected mining method requires simple intrastructure to support mobile open-cut mining equipment (i.e. workshop, fuel farm, site ablution and offices).
Metallurgical	• The ROM coal produced at Maramarua is crushed and screened on site. No processing losses
factors or	are assumed which is in line with processing reconciliations.
assumptions	 Product coal specifications include ash, sulphur, moisture and calorific value.
	• Some parts of the Coal Reserve show the base of the seam with elevated phosphorous levels.
	This can be effectively blended out within the entire seam thickness; however, care will need to
Environmontal	be taken not to mine the seam noor as a discrete entity.
Environmentai	 The current operating pits are fully consented and licences required to operate have been granted.
	 All water related consents are in place for current activities.
	• The M1 and M2 areas of the reported Coal Reserve require additional consents to allow for
	mining, these approval processes are underway and there are reasonable expectations that
	 Disturbed areas are progressively rehabilitated on completion of mining activities
	 Environmental impacts that have been identified can be mitigated to meet permitting.
	requirements.
	• Updating of approvals is an ongoing process and it is reasonably expected that any modifications
	to existing approvals or additional approvals that may be required can be obtained in a timely
	manner.
Infrastructure	All necessary infrastructure is in place and operational for the current operation.
Costs	All infrastructure is in place at Maramarua. The primary ongoing capital requirements are for aguinment replacement and this is included in the companie model.
	 Costs are based on historical actuals and forecasting for the following financial year. All operating.
	costs were based on the 3-year budget estimates developed by BT Mining and include
	allowances for royalties, commissions, mining costs, road haulage loading and administration.
	• Contracted product specifications and penalties for failure to meet specification are included in
	the cost model. Levies and royalties have been applied as per the appropriate NZ legislation
	(Crown AVR/APR royalty, Mines Rescue Levy and Energy and Resources Levy).
Revenue	 Revenues are as per the current coal supply sales contracts.
factors	• Revenues are based on the as-received calorific value which is in turn determined by the dry-
	basis calorific value of the coal and the total moisture as delivered to the customer.
	Coal Resource model estimates are used to determine the dry caloritic value estimates, and actual production colorific value data from the bulk comple delivering to sustainers.
	Cool Posorius are reported within pit designs that are based on a RE0.85 optimized shell
Markot	Coal Reserves are reported within pit designs that are based on a RF0.00 optimised shell. The supply and demand situation for coal is affected by a range of factors, and coal consumption
assessment	 The supply and demand siduation of coarts anected by a range of factors, and coar consumption changes with regulatory and customer circumstances
	 Annual sales volumes are as per BRL internal market forecasts and within the quantities allowed
	in long term sales contracts.
Economic	• To demonstrate the Reserve as economic it has been evaluated as part of the annual budgeting
	cycle through a standard financial model. All capital, operating and closure costs as well as
	current sales contract revenue factors were included in the financial model. This model has
	shown that the Maramarua Coal Reserve has a positive NPV.
Social	As part of the resource consenting process and general site operations, regular communication
	and consultation has taken place with the local communities, regulatory authorities and he local
	. BT Mining Limited currently holds the required landowner access to mine the current Cool
	Reserves reported.

Criteria	Commentary
Other	 All mining projects operate in an environment of geological uncertainty. Updating of approvals is an ongoing annual process and it is reasonably expected that any modifications to existing approvals or additional approvals that may be required can be obtained in a timely manner.
Classification	 The Reserve coal within the K1 and M1 (formerly known as KCQ) pits has been categorised based on the underlying Coal Resource categories, where Measured Coal Resources have mapped to Proven Coal Reserves and Indicated Coal Resources to Probable Coal Reserves. These categorisations reflect the Competent Person's view of the deposit. Coal Resources are inclusive of Coal Reserves.
Audits or reviews	• Several internal reviews have been completed during the various project stages.
Discussion of relative accuracy/ confidence	 Coal Reserves have been reported in accordance with the guidelines of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, the basis of the categorisation reflects the accuracy of the coal reserve tonnes. The accuracy of the Coal Reserve estimate is primarily dependent on the accuracy of the Coal Resource model, the ability to sell the coal at the estimated prices and the site operating costs. The Competent Person has reviewed the Coal Reserve estimates and has visited the existing operations on numerous occasions. In the opinion of the Coal Reserve are reasonable. Some risk is associated with: Long term market demand for this coal. Obtaining Resource Consents for the M1 Pit. Some areas of geotechnical instability with the active pit, these are monitored by BRL geotechnical staff. Reconciliation for the FY22 year resulted in coal production within 10% of that estimated by the model. No coal quality reconciliation has been undertaken but sold coal has been within customer contract specifications.

Appendix A:







Figure 2: Regional Geology


Figure 3: Maramarua Coal rights within the resource area

5874000

\$8720



Figure 4: Maramarua land rights



Figure 5: Plan showing the drilling dataset

57.2



Figure 6: Maramarua resource classification polygons within optimised shell extents

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Figure 7: Maramarua reserve classification polygons with pit shell extents



Figure 8: Plan showing the structure contours of the KK coal seam floor



Figure 9: Plan showing full seam thickness contours for the KK seam



Figure 10: Plan showing in situ full seam ash on an air-dried basis as modelled for the KK seam



Figure 11: Plan showing full seam sulphur on an air-dried basis for the KK seam