

# TICK HILL GOLD PROJECT

## Exceptional Pre-Feasibility Study Results and Maiden Ore Reserve

Carnaby Resources Limited (ASX: CNB) ('Carnaby' or 'Company') is pleased to announce the results from a Preliminary Feasibility Study ('PFS') and Maiden Ore Reserve confirming a technically and economically viable mining and toll treatment project for its 100% owned Tick Hill Gold Project.

### Cautionary Statement

*The Pre-Feasibility Study (Study) referred to in this announcement has been undertaken to determine the technical and economic viability of an open pit cutback mining operation and re-processing of tailings, processing the ore by toll treatment (Project). The Study is based on Proven and Probable Ore Reserves derived from Measured and Indicated Mineral Resources. A proportion of Inferred Resource material has been included in mill feed which forms part of the production target (Production Mill Feed).*

*Approximately 8% of the Production Mill Feed referred to in the Study is based on Inferred Resources. Investors are cautioned that there is a low level of geological confidence in Inferred Resources and there is no certainty that this will result in the determination of Measured or Indicated Resources or that the Production Target will be realised.*

*The Study is based on the material assumptions outlined below. While Carnaby considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Study will be achieved.*

*Carnaby has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement and believes that it has a "reasonable basis" to expect it will be able to complete the development of the Project.*

*Key components of the Study and the material assumptions used are contained within this announcement. Information includes mine design studies, metallurgical recoveries from existing test work and indicative costs based on discussions and information prepared by with 3<sup>rd</sup> party toll treatment parties, mining contractors and by external consultants. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Study.*

*This announcement has been prepared in accordance with the JORC Code (2012) and the ASX Listing Rules.*

*Please refer to pages 17 - 18 of this announcement for further information regarding Forward Looking Statements, Competent Persons Statements and Disclaimers.*

### Fast Facts

Shares on Issue 96M

Market Cap (@ 10.0 cents) \$9.6M

Cash \$1.8M<sup>1</sup>

<sup>1</sup>As of 31 March 2020 and inclusive of Restricted Cash

### Board and Management

Peter Bowler, Non-Exec Chairman

Rob Watkins, Managing Director

Greg Barrett, Non-Exec Director

Paul Payne, Non-Exec Director

Ben Larkin, Company Secretary

### Company Highlights

- Proven and highly credentialed management team
- 100% ownership of the Tick Hill Gold Project (granted ML's) in Qld, historically one of Australia highest grade and most profitable gold mines
- Past production of 511 koz at 22 g/t gold
- Indicated and Inferred Mineral Resource of 845,000 t @ 2.47 g/t gold for 67,100 ounces
- Proven and Probable Ore Reserves of 459,900 t @ 1.89 g/t gold for 28,000 ounces
- 323 km<sup>2</sup> surrounding exploration package containing numerous gold and copper targets
- Tight capital structure and strong cash position

### Registered Office

78 Churchill Avenue Subiaco Western  
Australia 6008

T: +61 8 9320 2320

[www.carnabyresources.com.au](http://www.carnabyresources.com.au)

## Highlights

- The PFS comprises a contract mining and toll treatment operation over a 13 month period processing **474,200 t @ 2.0 g/t** to recover approximately **27,300 ounces of gold at an All-In Sustaining Cost ('AISC') of A\$1,493** per ounce.
- PFS findings confirm an economically viable open pit mine and tailings re-processing project, generating **net pre-tax cash flows of approximately \$21.7M at an assumed gold price of A\$2,300 per ounce. At an approximate spot gold price of A\$2,450/oz, net pre-tax cash flows are \$25.6M.**
- Maiden Probable Ore Reserve for the Tick Hill Gold Project of;
  - **Open Pit** **48,000t @ 6.53 g/t for 10,200 ounces**
  - **Tailings and ROM stockpiles** **410,900t @ 1.35 g/t for 17,800 ounces**
  - **Total Ore Reserve** **459,600t @ 1.89 g/t for 28,000 ounces**
- Tailings and ROM stockpile Ore Reserves of **410,900 t @ 1.35 g/t for 17,800 ounces** provide a low-risk project start-up with negligible capital requirement and immediate cash flow.
- An engineered design open pit cutback of the historical Tick Hill open pit contains Production Mill Feed of **63,300 t @ 6.14 g/t gold for 12,500 ounces**. Inferred Resources included in the Production Mill Feed totals 14,700 t @ 4.9 g/t gold for 2,296 ounces representing 8% of the total Production Mill Feed for the Pre-Feasibility Study.
- Additional metallurgical test work results from the tailings dam stockpile has confirmed the amenable grinding and leachability characteristics of the ore.
- Advanced discussions are in progress with owners of 3<sup>rd</sup> party processing facilities and contract miners regarding potential commercial agreements.
- Carnaby's primary goal remains the discovery of the fault offset of the Tick Hill orebody. The Pre-Feasibility Study and Maiden Ore Reserve released today clearly shows a near term pathway to sole fund the exploration required to achieve this goal through the development of the Tick Hill Gold Project.

The Company's Managing Director, Rob Watkins commented:

"The exceptional Pre-Feasibility Study results and Maiden Ore Reserve announced today are another significant milestone on the way to transforming Carnaby from a junior explorer into a gold producer. The combination of a negligible capital start-up cost from the low risk tailings stockpile reclamation followed by the 6 g/t gold Tick Hill open pit cutback represents a unique opportunity to capitalise on high AUD gold prices and a catalyst for rapid growth in the future."

## SUMMARY FINDINGS

A summary of the findings of the PFS are presented in the following table.

Measure		PFS Outcome (A\$2,300/oz)	PFS Outcome (A\$2,450/oz)*
Site Establishment	months	2	2
Mine Life	months	13	13
Total Ore Mined	t	474,258	474,258
Total Waste Moved	t	2,711,676	2,711,676
Project Stripping Ratio	Waste:Ore	5.7	5.7
Gold Grade	g/t	2.0	2.0
Recovery	%	90%	90%
Recovered Gold	oz	27,330	27,330
Capital Costs	\$	355,000	355,000
All-In Sustaining Costs (AISC)	\$/oz	1,493	1,501
<b>Net Pre-Tax Cash Flows</b>	<b>\$</b>	<b>21,691,540</b>	<b>25,575,599</b>

\* PFS outcome at an A\$ gold price approximating the spot gold price at the time of the announcement. All other assumptions remain constant. AISC increases as a result of increased revenue and accordingly royalties paid.

**Table 1: Summary PFS Findings (in AUD)**

The PFS is based on an optimised open pit cutback of the existing 70 m deep Tick Hill open pit and re-processing of the tailings dams and historic ROM pad. The PFS contemplates a conventional open cut mine will be established using all-wheel drive truck and shovel operations, conducted by an experienced mining contractor. The Tick Hill ore will be hauled to nearby processing facilities for toll treatment.

Following a 2 month site establishment period, the mining and toll processing operation is expected to run for a period of 13 months. Mining and processing of the tailings dams and historical ROM pad is scheduled to commence in advance of the development of the Tick Hill open pit, allowing the generation of immediate cash flow and reduces working capital requirements associated with the development of the Tick Hill open pit.

## ORE RESERVES

The Ore Reserve was compiled by independent consultants Minesure Pty Ltd. The Ore Reserve was estimated using the following material assumptions;

- Pit optimisation using slope parameters based on detailed geotechnical assessment by WK Geotechnical with an allowance for a ramp;
- Mining costs were derived from first principles and benchmarked against rates for comparative operations. Indicative haulage costs were based on quotations provided by a local based mining contractor currently undertaking work of this nature;
- Metallurgical recovery of 97% for the in-pit ore based on historic production data at Tick Hill. Metallurgical recovery of 85% for the tailings based on detailed previous test work and confirmed by recent additional test work;
- Processing costs based on indicative pricing received on commercial terms through operators of a conventional third party carbon in leach plant;
- Mining recoveries and mining dilution based on domains in the deposit and proximity to old voids. Mining recoveries range from 70% to 95% and dilution from 10% to 30% with lower recovery and higher dilution in close proximity to the voids. All Inferred material was excluded from the estimation of the Ore Reserves;
- An Australian Dollar gold price of \$2,300 per ounce was applied. Queensland state and third party royalties were subtracted from the gold price as part of the optimisation;
- Densities were derived from test work; and
- No financial discount factors were applied as the open pit mine life is 13 months.

The Ore Reserve for the project is reported according to the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves, JORC Code (2012) (JORC Code).

Tick Hill Reserve	Proven			Probable			Diluted and Recovered Total		
	tonnes	g/t	ounces	tonnes	g/t	ounces	tonnes	g/t	ounces
Open Pit	0	0	0	48,600	6.53	10,200	48,600	6.53	10,200
Historic ROM Stockpile	0	0	0	8,100	2.77	700	8,100	2.77	700
East Paddock Tailings	0	0	0	285,000	1.42	13,000	285,000	1.42	13,000
West Paddock Tailings	0	0	0	117,800	1.07	4,100	117,800	1.07	4,100
<b>Ore Reserves</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>459,600</b>	<b>1.89</b>	<b>28,000</b>	<b>459,600</b>	<b>1.89</b>	<b>28,000</b>

*The Tick Hill Open Pit Reserve has been calculated at a cut-off of 1.0g/t Au.*

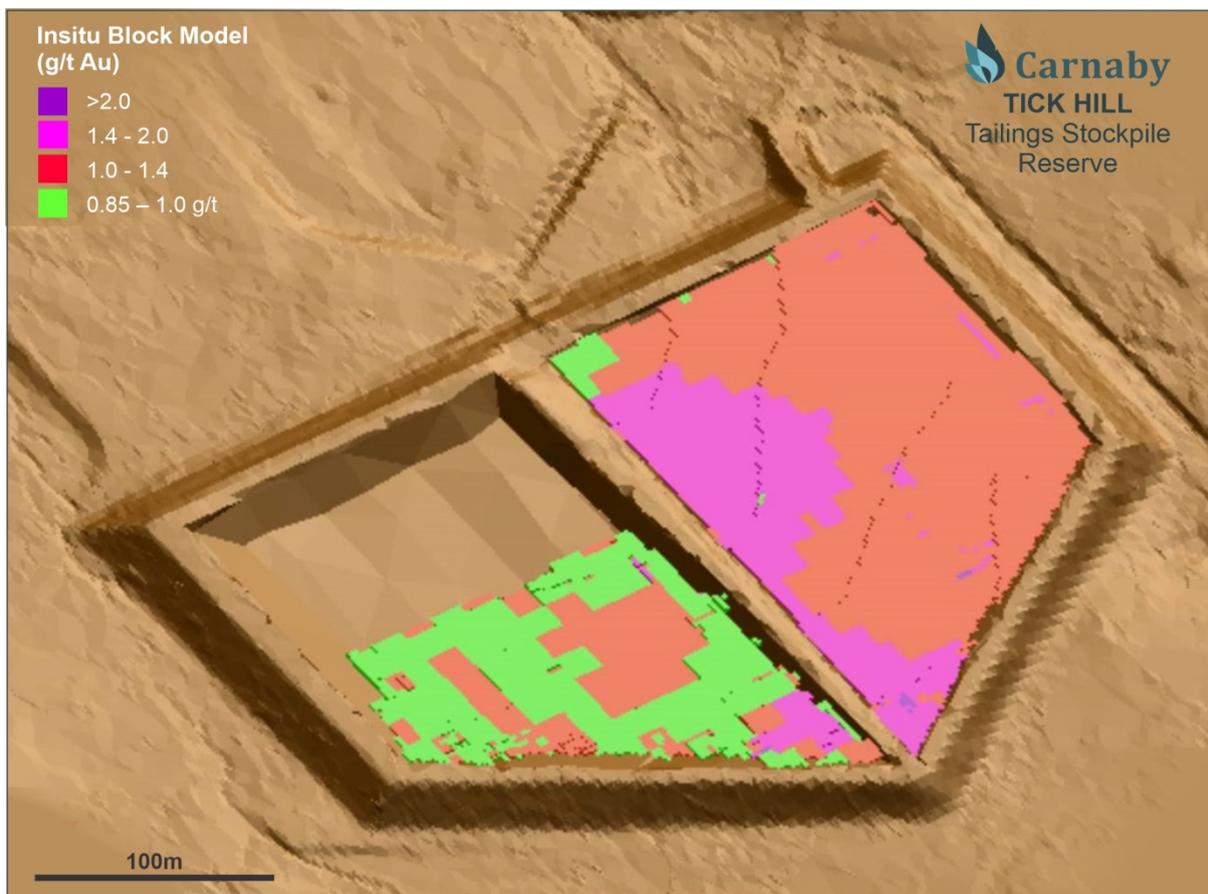
**Table 2: Tick Hill Ore Reserves**

### Tick Hill Tailings Stockpile Ore Reserves

The Tick Hill tailings dam comprises two dry adjoined tailings paddocks that have remained on site since processing of Tick Hill ore was curtailed in 1994. All of the East Paddock (285,000 t @ 1.42 g/t for 13,000 oz) and the high grade portion of the West Paddock (120,000 t @ 1.07 g/t for 4,100 oz) has been converted to an Ore Reserve.

The Tick Hill tailings dams have been the subject of detailed scoping studies by previous owners at significantly lower gold prices. The Tailings Stockpiles have been drilled on approximately 40 m spacing and are classified as Indicated Resources.

The tailings stockpile is considered to have an inherently low level of technical risk associated with its mining.



**Figure 1: Tick Hill Tailings Dam 3D view showing Ore Reserve gold block model**

### Tick Hill Open Pit Ore Reserves

An open pit Whittle optimisation was completed by external consultants Minesure Pty Ltd. The optimisation was based on a gold price assumption of A\$2,300 per ounce, which represented an approximate 10% discount to the prevailing gold price at the time of preparation.

The results indicate an open pit cut back of Tick Hill is viable and an open pit Whittle shell was selected to design the pit. The Open Pit Ore Reserves total 48,000 t @ 6.53 g/t for 10,200 ounces (see Table 2).

The cutback results in a deepening of the pit by approximately 40 metres. The Ore Reserves within the optimised design pit shell includes the previously unmined southern extent of the Main Lode immediately beneath the historical open pit and the Hangingwall Lode.

Significant high grade gold mineralisation is also captured in the cut back from the direct northern strike extent of the Main Lode into the lower north wall of the open pit (Figure 2).

The Criteria used for classification and the confidence in the modifying factors applied is as follows;

Ore blocks which were located on the hanging wall of the stope voids and adjacent to existing backfilled voids were considered a high risk from a mining aspect. As such a mining dilution of 30% and mining recovery of 70% were applied to these zones. This is considered reasonable due to the fact that the stopes were tightly backfilled and have settled for over 20 years hence should provide a buffer against the throw of the ore whilst blasting. This quantity of ore comprised 8% of the total. Ore blocks which were located adjacent to the footwall of the stopes were considered a lower risk as the ground was likely to be less stressed than the hanging wall. A mining dilution factor of 20% and mining recovery of 85% was applied on that basis. The quantity of ore in this category comprised 7% of the total. The balance of the ore was located in undisturbed ground and the lodes were of sufficient size to enable very selective mining. The extensive grade control program on a 5m x 5m pattern would enable the ore/waste boundaries to be very accurately defined and the lodes are very steeply dipping. Accordingly, a dilution factor of 10% and mining recovery of 95% was deemed appropriate.

A cut-off grade of 1 g/t gold has been applied to the open pit Ore Reserve. The Cut-Off Grade (COG) is the lowest grade of a parcel of mineral that can be economically mined and processed. It is estimated as: processing cost / tonne of ore / realised value of 1gm of gold, where;

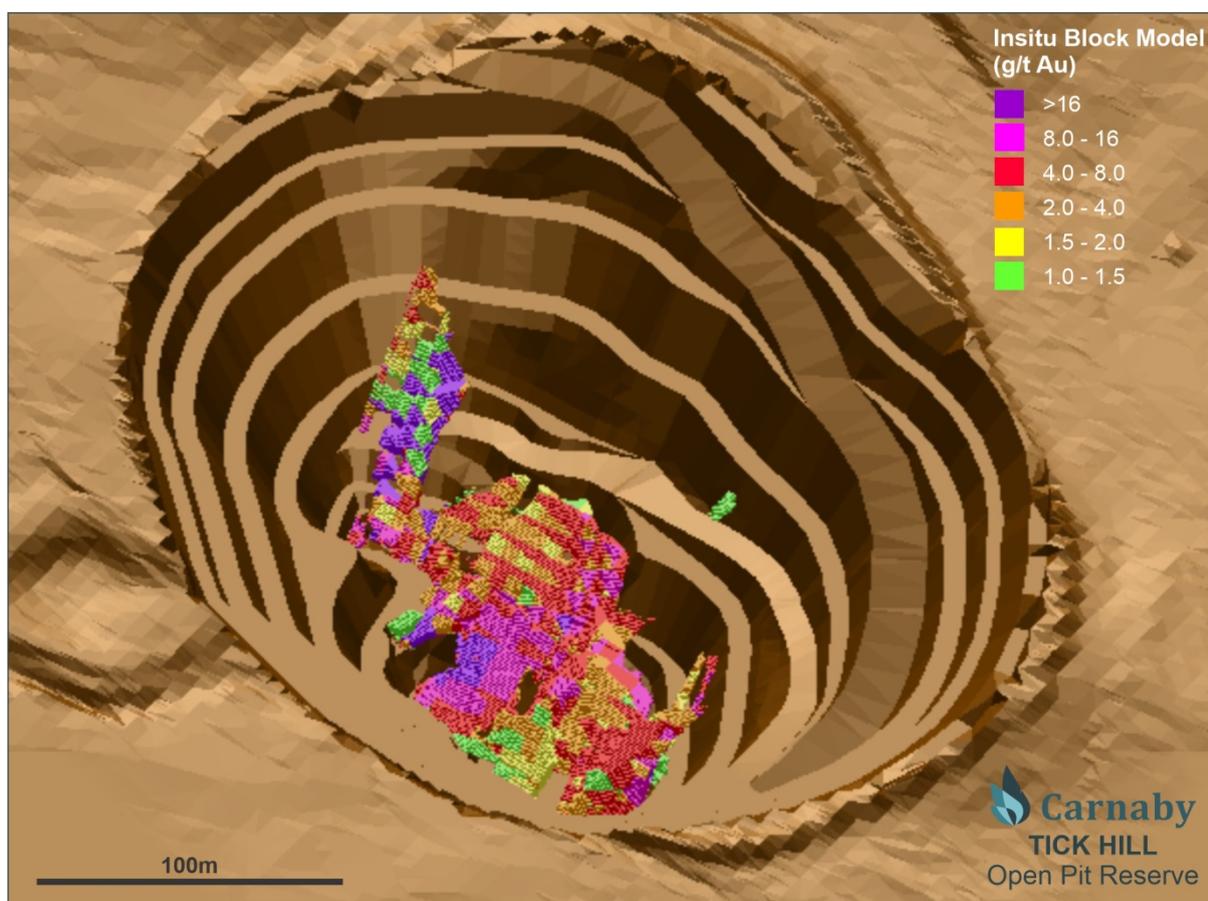
- Processing costs comprise allowance on a cost per tonne process basis for technical services, general and administration, contractors fixed costs, grade control, dewatering, ore handling and haulage, mill treatment, refining and bullion transport.
- Realised value = (gold Price (A\$2300/oz) - Royalty (5.8%)) x Metallurgical Recovery (97%).
- COG = processing cost/realised value.

With a 10 % allowance for dilution the in-situ COG will be 1.25g/t.

This assumes that ore within a pit has to cover the full fixed costs during the period of mining however there is an incremental cut-off grade which would apply to lower grade ore contained within the pit design. This material would usually be stockpiled for later

processing or used to provide additional feed in the event insufficient high grade was available. This deems that some fixed costs such as technical services, dewatering mining contractor fixed a high proportion of general and administration costs would not apply. By extracting these costs from the estimation it reduces the “processing” cost which results in an incremental COG of 0.9 g/t pre dilution and recovery which is 1.0 g/t after applying mining dilution and recovery factors.

The estimation methodology for the Ore Reserves were estimated by summing all the in-situ Indicated resource blocks within the pit design which contained a gold grade in excess of 1 g/t Au using Surpac software. Mining dilution and recovery factors were applied as explained above to estimate a recovered diluted Probable Reserve.



**Figure 2: Tick Hill 3D view of engineered design open pit and Resource gold block model.**

## MINERAL RESOURCE ESTIMATE

A revision to the Tick Hill Mineral Resource has resulted in the addition of the Historic ROM Pad Stockpile (8,000 t @ 2.77 g/t for 700 oz) to the existing Resource base. The stockpile forms part of the previous processing ROM pad which was constructed out of lower grade material at the time. Total Indicated and Inferred Mineral Resources at Tick Hill from the

Main and Hangingwall Lodes and including the existing Tailings Dam Resource and Historic ROM Stockpile (are presented in the following table with supporting detailed information provided in the attached JORC Table 1).

Tick Hill Mineral Resources	Indicated			Inferred			Total		
	tonnes	g/t	ounces	tonnes	g/t	ounces	tonnes	g/t	ounces
Main Lode	61,000	6.9	13,400	92,000	7.31	21,700	153,000	7.15	35,100
Hangingwall Lode	32,000	4.4	4,500	21,000	7.07	4,900	53,000	5.46	9,400
Deposit Total	93,000	6.04	18,000	114,000	7.27	26,600	207,000	6.71	44,600
Tailings Dam West Paddock	345,000	0.8	8,800				345,000	0.8	8,800
Tailings Dam East Paddock	285,000	1.42	13,000				285,000	1.42	13,000
Tailings Dam Total	630,000	1.08	21,800				630,000	1.08	21,800
Historic ROM Stockpile	8,000	2.77	700				8,000	2.77	700
<b>Tick Hill Total</b>	<b>731,000</b>	<b>1.73</b>	<b>40,500</b>	<b>114,000</b>	<b>7.27</b>	<b>26,600</b>	<b>845,000</b>	<b>2.47</b>	<b>67,100</b>

*Tick Hill Deposit Resource has been calculated at a cut-off of 0.5g/t Au.*

**Table 3: Updated Tick Hill Mineral Resource Statement**

The Mineral Resource has been updated with the inclusion of the Historic ROM stockpile. The following statement is in relation to the Tick Hill ROM Stockpile Mineral Resource:

### Geology and Geological Interpretation

The Tick Hill ROM stockpile was constructed of low grade material from the mining operations. Given the unknown production history of this stockpile, the resource estimation has been based on recent RC drill hole logging and assay information. A 20m drill hole spacing and LIDAR topography were employed to model the stockpiled material.

### Drilling Techniques

Seven vertical 5.5" RC holes were drilled on an approximate 20m x 20m drill hole spacing.

### Sampling

1m RC samples were collected via a Jones splitter mounted below the cyclone. A 2-3 kg sample was collected from each 1m interval.

### Sample Analysis Method

Samples were pulverised to obtain a 30g charge for aqua regia digest and AAS analysis of Gold. Blanks have been inserted by Carnaby staff approximately every 150 samples and ore grade gold standards (CRMs) are inserted every 50 samples. Standard CRM identification was removed prior to submitting to the external lab. Results of the standards and blanks were reviewed against the CRM reference sheets to check they were within tolerance.

### Estimation Methodology

A single 3D wireframe was constructed using a detailed LIDAR topographic surface and the base of the dump defined by drill hole logging. Due to the nature of the deposit and limited

number of samples available to conduct valid variography, Au estimation was done using inverse distance cubed estimation. 1m composites were used and composites at the edge of the wireframe with a length <0.75m were excluded. No Top cut was applied to the stockpile. The highest assay grade was 12.2g/t.

### **Block Model**

The block model used a parent block size of 10m x 10m x 2m (xyz). The block size selected was approximately half the drill hole spacing in plan. The model was sub-celled to 0.625m x 0.625m x 0.125m to give good resolution against the modelled wireframe of the deposit.

### **Interpolation & Anisotropy**

A 30m search was employed with a 1:1 major:semi -major ratio and 1:6 major:minor ratio applied for search ellipsoid. A minimum of 1 sample and a maximum of 30 samples were used to inform the estimated blocks.

### **Bulk Density**

Bulk density used in ROM stockpile was 2.26 based on an insitu fresh density of 2.66 with an 15% swell factor applied. Material drilled in the ROM was observed to be mainly fresh.

### **Cut-Off Grade**

The mineral resource has been constrained within the resource model with 3 separate mining solid wireframes constructed to capture blocks > 0.5 g/t Au. All blocks have been reported within these wireframe solids at a 0 g/t cut-off.

### **MRE Reporting and Classification**

An Indicated classification was applied to the resource based on the drill hole spacing, constraining mining solid wireframes used to report the resource and material being historic low grade ore sourced from the Tick Hill Pit.

## **PRODUCTION MILL FEED**

The Production Mill Feed of 474,200 t @ 2.0 g/t for 30,300 ounces has been scheduled and has been calculated after applying dilution and mining recovery factors of 10-30% dilution and 70-95% mining recovery of Open Pit Indicated Resources and 50% dilution and 50% mining recovery of Inferred Resources. Inclusive of Inferred Resource material, the open pit scheduled Production Mill Feed using the design produces a total 63,000 t @ 6.1 g/t for 12,500 ounces. Inferred Resources make up 8% of the total Production Mill Feed. Tailings and historic ROM stockpile has had 100% recovery and 0% dilution applied to the Indicated Resource for inclusion in Production Mill Feed. The Tailings and historic ROM Production Mill Feed is based only on Ore Reserves.

Mining of the open pit, tailings dam and historical ROM pad stockpiles will be completed by contract mining. Contract mining equipment required to complete the material movement including excavators, dump trucks, loaders will be provided by and operated by the mining contractors on a Bank Cubic Metre (BCM) rate. The open pit mining operation will require

drilling and blasting. Tailings dam and historical ROM Pad stockpiles are free dig and only require excavation using a front end loader or excavator.

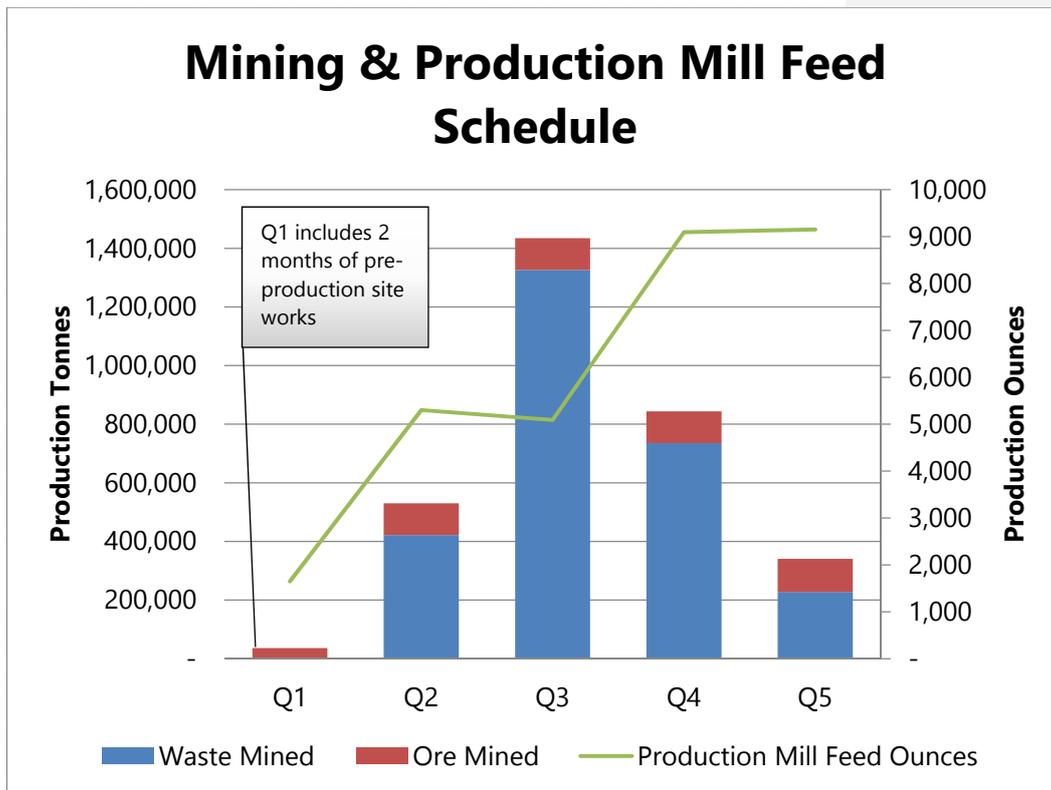
Production Mill Feed by ore source is summarised at Table 4 below.

Tick Hill Production Mill Feed	Diluted and Recovered Indicated			Diluted and Recovered Inferred			Diluted and Recovered Total		
	tonnes	g/t	ounces	tonnes	g/t	ounces	tonnes	g/t	ounces
Open Pit	48,600	6.5	10,200	14,700	4.9	2,296	63,300	6.1	12,500
Old ROM Stockpile	8,100	2.8	700	0	0.0	0	8,100	2.8	700
East Paddock Tailings	285,000	1.4	13,000	0	0.0	0	285,000	1.4	13,000
West Paddock Tailings	117,800	1.1	4,100	0	0.0	0	117,800	1.1	4,100
<b>Production Mill Feed</b>	<b>459,600</b>	<b>1.9</b>	<b>28,000</b>	<b>14,700</b>	<b>4.9</b>	<b>2,296</b>	<b>474,200</b>	<b>2.0</b>	<b>30,300</b>

*The Open Pit Production Mill Feed has been calculated using a Reserve cut-off of 1.0g/t Au.*

**Table 4: Production Mill Feed**

Following 2 months of site establishment activities, mine production commences and continues for a total of 13 months. Production Mill Feed by quarter is summarised at Figure 3 below.



**Figure 3: Quarterly Mining & Production Mill Feed Schedule**

## **PROCESSING**

The PFS contemplates toll treatment of the Production Mill Feed at a third party offsite processing facility within the Mt Isa / Cloncurry district using standard Carbon in Leach (CIL) processing technology. Indicative pricing for toll treatment costs and haulage have been obtained and have been used in the PFS.

The Production Mill Feed of 474,200 t @ 2.0 g/t is planned to occur over a 13 month period to recover approximately 27,300 ounces of gold. Overall recoveries are anticipated to be 90%.

Metallurgical recoveries from the Production Mill Feed are estimated to be 97% for hard rock ore from the open pit cutback and historical ROM Pad stockpile at a grind size of approximately 110 micron, based on historical grind size and recoveries from the Tick Hill mine. The Tick Hill gold mine was operated by Mount Isa Mines (MIM) from 1991 until 1994 using conventional Carbon in Leach (CIL) and publicly available reports support the processing assumptions for gold recoveries.

Metallurgical recoveries from the tailings dam are estimated to be 85% at approximately a 35 micron grind size based on detailed metallurgical studies completed in 2016 by Metcor Pty Ltd. The tailings dam Production Mill Feed is already crushed to approximately 110 micron.

Additional grinding and bottle-roll leach testing of the tailings material has been completed confirming previous metallurgical grinding and recovery results.

A +50 kg composite from two reverse circulation drill holes drilled through the tailings dam in November 2019 yielded bottle-roll leach recoveries of 85.7% and 85.4% from samples ground to circa -48um. These results are in accordance with recoveries of 85% that have been used in the PFS study for processing recovery of the tailings dam stockpile Production Mill Feed.

Additional gravity test work and detailed sizing analysis is being undertaken to confirm the potential additional benefit of being able to characterise the tailings and separate the fine fraction to produce a higher grade, lower tonnage product pre grinding and leaching.

## **ENVIRONMENTAL & PERMITTING**

The Tick Hill Gold Project is located on granted mining leases ML7094, ML7096 and ML7097. An Environmental Authority (EA) over the mining leases is in place along with required environmental bonds.

The mining leases are currently classified as on Care and Maintenance and Exploration. An amendment of the EA is in progress with pre-lodgement meetings with government

regulators completed and lodgement documents being prepared. It is anticipated that start-up approvals will take 3 months to complete.

Envirofin Environmental Consulting was appointed to undertake the PFS level environmental and permitting studies and oversee the EA amendment.

## **INFRASTRUCTURE AND SITE PREPARATION**

The Tick Hill Project site is located 120 km South East of Mt Isa and is accessible by all-weather sealed roads either from Mt Isa or Cloncurry. Travel time from Mt Isa or Cloncurry is approximately 2 hours. From the main Duchess-Phosphate road, the site is accessed by an additional 5.7 km of established unsealed station tracks.

The supporting infrastructure required for the operation of the project will include the following works:

- Widening of the access road to the Duchess-Phosphate road.
- Refurbishment of internal operations roads and tracks;
- Drainage, ponds, explosive magazine storage and mine service areas;
- Communications network;
- Transportable buildings including site offices, change rooms, crib rooms and ablutions;
- Fuel storage and distribution facility;
- Electrical power generation;
- Reticulation to existing water supply; and
- Wastewater treatment.

Dewatering will be by means of a disused ventilation shaft on the north west corner of the pit. The development of the pit will require the re-establishment of the drain on the west side of the pit as the old drain will be removed when mining re-commences.

Surface water management will comprise the following:

- Sections of rock armoured surface water diversion bunds and drains placed around pit crests;
- Bunds will be offset sufficiently such that they can also serve as abandonment bunds; and
- Ex-pit roadside drains to direct runoff away from the pits.

All personnel involved in with the site establishment works will be accommodated in Cloncurry, Duchess or the Phosphate Hill mining camp located a half hour drive from the Tick Hill Site.

## ECONOMIC EVALUATION

The summary of the Tick Hill PFS results are presented in the preceding Table 1. The Production Mill Feed has been generated using the Tick Hill open pit mine design in conjunction with the Company's plan for mining of the East and West Paddock tailings dams and historic ROM pad stockpiles.

Mining and processing of the tailings dams and historic ROM pad stockpiles is scheduled to commence in advance of the development of the Tick Hill open pit, allowing the generation of immediate cash flow and reduces working capital requirements associated with the development of the Tick Hill open pit.

The PFS is premised on a 13 month mining and toll treatment operation recovering 27,330 gold ounces. Gold sales revenue (before royalties) has been estimated at \$59.6 M and pre-tax net cash flows at approximately \$21.7 M based on a gold price of A\$2,300 per ounce. These figures are inclusive of project capital expenditure.

The gold price assumption of A\$2,300 per ounce used in the estimation of net pre-tax cash flows, is consistent with the price assumption used for the open pit Whittle optimisation. This represented approximately a 10 % discount to the prevailing gold price at the time of the Whittle optimisation.

Adjustment of the gold price assumption to A\$2,450 (the approximate spot gold price at the time of this announcement) results in an increase in the pre-tax net cash flows to approximately \$25.6 M.

The PFS contemplates a project life of 15 months, inclusive of a 2 month pre-production site establishment. Accordingly, the effects of discounting are not considered to be significant and the Company has presented only undiscounted cash flows in this financial information.

Cash flows have been presented pre-tax, as the PFS did not consider the effects of taxation on cash flows. The Company has carry forward tax losses. Management believes these tax losses, or a portion thereof, will be available to reduce future cash outflows in relation to taxation.

### Capital Costs Estimate

The capital cost for the establishment of the site to allow recommencement of mining activities has been estimated at approximately \$355,000. Site establishment activities have been estimated as requiring 2 months to complete. Table 4 provides a summary of the capital costs estimate.

Capital Costs Estimate	A\$'000's	A\$/oz
Site Establishment	68	2
Facilities	72	3
Site Works	215	8
<b>Total</b>	<b>355</b>	<b>13</b>

**Table 5: Capital Costs Estimate (in AUD)**

The capital costs have been estimated by Carnaby management based on actual operating experience in the Mount Isa region and have been independently verified by mining contractors with operational experience in the region.

The capital costs have been considered as non-sustaining costs in the PFS. Accordingly, these capital costs are not presented within the AISC of the project.

### **All-In Sustaining Costs**

AISC has been estimated at A\$1,493 per ounce based on a 13 month contract mining and toll treatment operation, commencing following the completion of site establishment activities.

The cost estimation is premised on 7 months of single shift mining operations in addition to a 6 month double shift mining operation coincident with the initial stages of development of the Tick Hill Open Pit.

Allowances have been made for the following activities in the AISC estimate:

- Accommodation & messing;
- Drill & blast;
- Excavate, load & haulage to toll treatment facilities;
- Ore rehandle;
- Survey & geology;
- Grade control costs;
- Dewatering, water management and site works;
- Site supervision & management;
- Toll treatment;
- Gold transport & refining; and
- Royalties.

Mining related costs and haulage costs have been independently verified by mining contractors with operational experience in the region. Toll treatment rates have been premised on indicative rates quoted by toll treatment plant operators with processing facilities in the region.

All other costs have been estimated by Carnaby management based on actual operating experience in the Mount Isa region, independent consultants and service providers.

### **Key Capital and Operating Cost Assumptions**

The following key assumptions have been made in relation to the capital cost and AISC estimates:

- Use of experienced Mount Isa region mining contractors;
- Toll treatment of Tick Hill ore at nearby processing facilities;

- Use of existing Tick Hill site infrastructure, with an allowance made for additional capital works and upgrades required (refer preceding Infrastructure and Site Preparation section); and
- Accommodation of workforce at nearby established third party accommodation facilities.

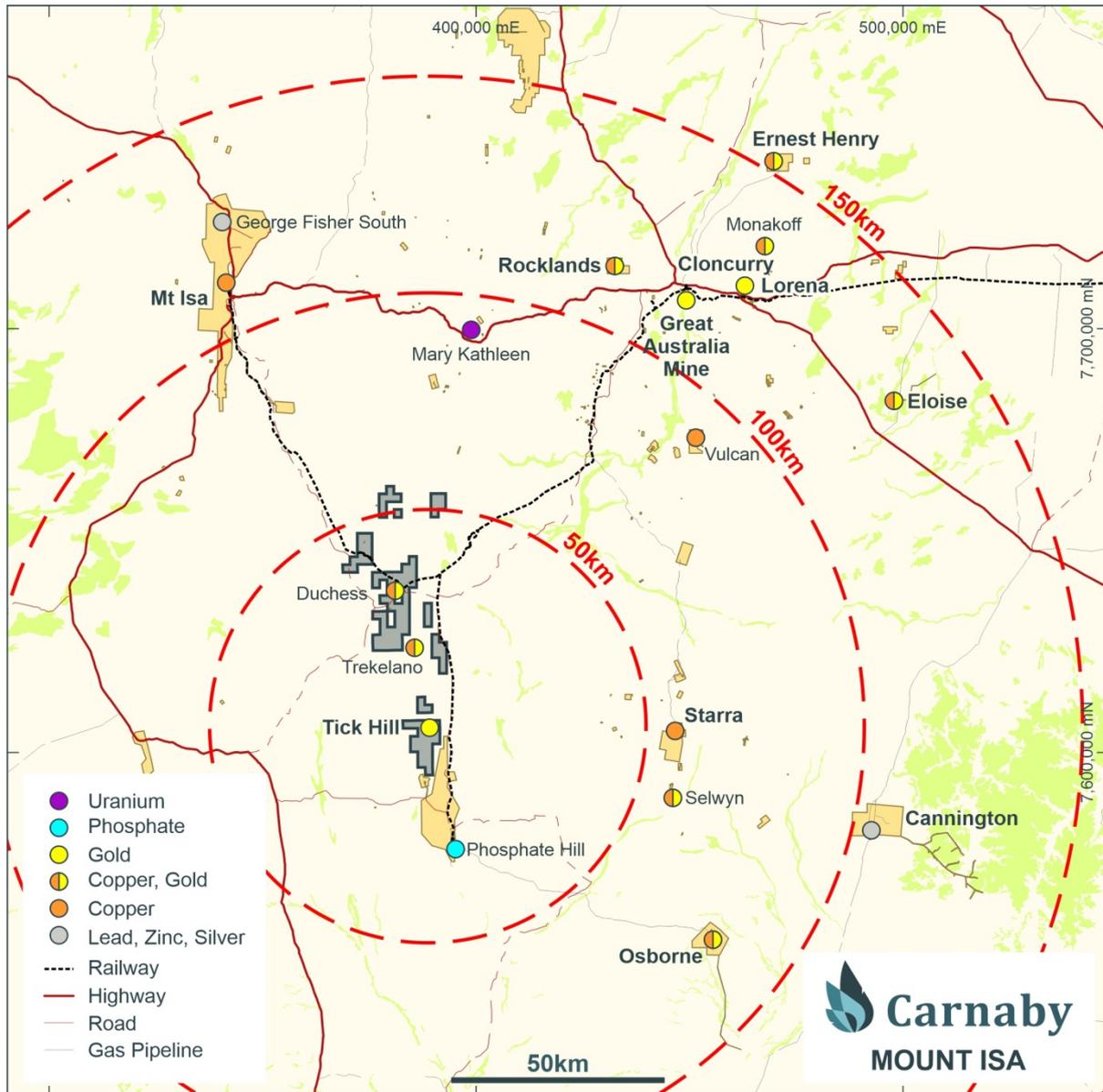
## **NEXT STEPS AND TIMELINE TO PRODUCTION**

The Tick Hill Maiden Ore Reserve and PFS results have outlined an economically robust project consisting of an open pit cutback of the historical Tick Hill open pit and re-processing of high grade tailings.

An amendment to the existing Environmental Authority is underway. Pre-lodgement meetings with government regulators have been completed and lodgements are being prepared. It is anticipated that start up approvals will take 3 months to complete.

Third party processing options in the Mt Isa / Cloncurry district are being advanced, including discussions relating to potential contract mining and alliance agreements to negate any funding requirement of the pre-production capital.

Carnaby remains on track and is targeting first gold production towards the end of 2020.



**Figure 4: Tick Hill regional location plan.**

Further information regarding the Company's projects can be found on the Company's website [www.carnabyresources.com.au](http://www.carnabyresources.com.au).

**For further information please contact:  
Robert Watkins, Managing Director  
(08) 9320 2320**

**Competent Persons Statement**

The information in this document that relates to the Tick Hill Deposit and Tick Hill ROM Stockpile Mineral Resources is based upon information compiled by Mr Paul Tan. Mr Tan is a full time employee and security holder of the Company and a Member of the AUSIMM. Mr Tan consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears. Mr Tan has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is undertaken to qualify as a Competent Person as defined in the December 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code).

The information in this document that relates to the Tick Hill Tailings Dam Mineral Resources is based upon information compiled by Mr Robert Watkins. Mr Watkins is a Director and security holder of the Company and a Member of the AUSIMM. Mr Watkins consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears. Mr Watkins has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is undertaken to qualify as a Competent Person as defined in the December 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code).

The information in this document that relates to the Tick Hill Deposit, Tailings Dam and ROM Stockpile Ore Reserves is based upon information compiled by Mr Nigel Spicer. Mr Spicer consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears. Mr Spicer has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is undertaken to qualify as a Competent Person as defined in the December 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code).

**Forward Looking Statements**

Some statements in this announcement regarding estimates or future events are forward looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "could", "nominal", "conceptual" and similar expressions. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions.

Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results to differ from estimated results, and may cause the Company's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward looking statements.

These risks and uncertainties include but are not limited to liabilities inherent in mine development and production, geological, mining and processing technical problems, the inability to obtain any additional mine licenses, permits and other regulatory approvals required in connection with mining and third party processing operations, competition for among other things, capital, acquisition of reserves, undeveloped lands and skilled personnel, incorrect assessments of the value of acquisitions, changes in commodity prices and exchange rate, currency and interest fluctuations, various events which could disrupt operations and/or the transportation of mineral products, including labour stoppages and severe weather conditions, the demand for and availability of transportation services, the ability to secure adequate financing and management's ability to anticipate and manage the foregoing factors and risks. There can be no assurance that forward looking statements will prove to be correct.

This announcement has been prepared in compliance with the JORC Code (2012) and the ASX Listing Rules.

The Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement, including with respect to any production targets and financial estimates, based on the information contained in this announcement.

This announcement has been prepared by Carnaby Resources Limited. This document contains background information current at the date of this announcement. The announcement is in summary form and does not purport to be all-inclusive or complete.

Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained in this announcement.

The announcement is for information purposes only. Neither this announcement nor the information contained in it constitutes an offer, invitation, solicitation or recommendation in relation to the purchase or sales of shares in any jurisdiction. The

announcement may not be distributed in any jurisdiction except in accordance with the legal requirements applicable in such jurisdiction. Recipients should inform themselves of the restrictions that apply to their own jurisdiction as a failure to do so may result in a violation of securities laws in such jurisdiction.

This announcement does not constitute investment advice and has been prepared without considering the recipients investment objectives, financial circumstances or particular needs and the opinions and recommendations in this announcement are not intended to represent recommendations of particular investments to particular persons.

Recipients should seek professional advice when deciding if an investment is appropriate. All securities transactions involve risks, which include (among others) the risk of adverse or unanticipated market, financial or political developments. To the fullest extent of the law, the Company, its officers, employees, agents and advisors do not make any representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of any information, statements, opinion, estimates, forecasts or other representations contained in this announcement. No responsibility for any errors or omissions from the announcement arising out of negligence or otherwise is accepted.

#### Disclaimer

References may have been made in this announcement to certain ASX announcements, including references regarding exploration results and mineral resources. For full details, refer to said announcement on said date. The Company is not aware of any new information or data that materially affects this information. Other than as specified in this announcement and the mentioned announcements, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, Exploration Target(s) or Ore Reserves that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Historical drill holes at Tick Hill have been undertaken by diamond drilling and RC with shallow exploration drilling undertaken by RAB.</li> <li>Historical diamond core at Tick Hill is understood to have been sampled halved (diamond saw cut – surface drill holes) or whole/halved (underground drill holes).</li> <li>Previous explorers (e.g. Carpentaria Gold Pty Ltd – a subsidiary of MIM Holdings Ltd), Cullen Resources and Barrick were Australian domiciled companies and are believed to have undertaken industry standard protocols at the time.</li> <li>MIM Holdings drill samples used analysis by AAS for base metals and 50 g fire assay for gold from Pilbara Laboratories in Townsville.</li> <li>The exploration data is considered suitable for current reporting purposes, however further work would be required to verify the data suitable for inclusion in potential future project reviews of resource estimations.</li> <li>Recent RC samples were collected via a Jones splitter mounted below the cyclone. A 2-3 kg sample was collected from each 1m interval. Samples were pulverised to obtain a 30g charge for aqua regia digest and AAS analysis of Gold. Infill pit drilling was carried out at an ore-grade detection level for Gold. Samples from holes more distal from the pit have been analysed for trace level Gold using AAS and trace level Copper, Cobalt and Silver using the same digest and ICP-AES analysis.</li> </ul>

Criteria	JORC Code explanation	Commentary
	disclosure of detailed information.	<ul style="list-style-type: none"> <li>Recent diamond core was half sampled. Samples were pulverised to obtain a 30g charge for aqua regia digest and AAS analysis of Gold.</li> <li><b>Tick Hill Tailings:</b> Air core drilling was used to obtain 1m samples from which ~1.5kg was pulverized to produce a 50g charge for fire assay.</li> <li>Samples are 1m down hole intervals of air-core drill cuttings collected from rig-mounted cyclone, the entire sample was collected on site and later riffle split, with half retained for reference (and bulk sample) and half submitted to the laboratory, with further riffle splitting of those samples &gt;3.2kg in weight prior to pulverising.</li> <li>1m sample intervals are considered appropriate for drilling of mineralised tailings.</li> <li><b>Tick Hill ROM Stockpile:</b> 1m RC samples were collected via a Jones splitter mounted below the cyclone. A 2-3 kg sample was collected from each 1m interval. Samples were pulverised to obtain a 30g charge for aqua regia digest and AAS analysis of Gold.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Historical drilling was reported to be primarily AC, RAB, and RC on regional projects; and significant amounts of RC and diamond drilling in the vicinity of the Tick Hill Gold Mine. Information pertaining to the type of drilling is recorded in a compiled database.</li> <li>All recent RC holes were completed using a 5.5" face sampling bit. Diamond tails were completed on 3 holes using HQ sized core.</li> <li>Recent core was orientated using Boart Longyear True Core.</li> <li><b>Tick Hill Tailings:</b> Vertical NQ air-core drilling utilizing blade bit, 3m drill runs.</li> <li>Drilling technique was continually adjusted to suit the prevailing drilling conditions (e.g. dry, moist, wet with variable clay content).</li> <li><b>Tick Hill ROM Stockpile:</b> RC holes were completed using a 5.5" face sampling bit.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> No database recovery information was available for historic drilling (e.g. drilled interval vs. core recovered).</li> <li>20 ore zone intervals (Main Lode and Hanging Wall Lode) were examined from 10 historic diamond holes spanning the Tick Hill resource. No significant issues were observed with respect to core recovery.</li> <li>For recent RC drilling, no significant recovery issues for samples was observed for either drill core or RC.</li> <li>For the recent diamond hole both drilled and recovered lengths per run were recorded. No loss of core was observed with the ground being extremely competent.</li> <li><b>Tick Hill Tailings:</b> Field assessment and logging of sample recovery and sample quality.</li> <li>Sample weight from laboratory used to assess sample recovery.</li> <li>Clearance of drill string after every 1m drill interval.</li> <li>Sample chute cleaned between samples and regular cleaning of cyclone to prevent sample contamination</li> <li>No relationship is evident between sample recovery and grade.</li> <li><b>Tick Hill ROM Stockpile:</b> No significant recovery issues for samples was observed.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Records available indicate that logging completed by geologists formerly employed by various companies working on the Tick Hill Project, is at a level sufficient to generate maps, plans and sections found in company reports.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>metallurgical studies.</p> <ul style="list-style-type: none"> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> </ul> <p>The total length and percentage of the relevant intersections logged.</p>	<ul style="list-style-type: none"> <li>488 out of 1,537 currently compiled drill holes &gt; 10 m deep have logging information available in a compiled database, further work is required to verify this data against original company reports; and to compile additional drill logs.</li> <li>Recent RC holes have been chip trayed (1 m intervals) and logged for lithology, weathering, sulphide mineralisation, alteration, veining and magnetic susceptibility. RC chips have been photographed.</li> <li>Recent Diamond holes been logged for lithology, weathering, sulphide mineralisation, alteration, veining, structure and magnetic susceptibility. All core has been orientated using a Boart Longyear "TRUECORE" tool. Orientation lines are shown to have an extremely good matching between core runs. Depth markups have been checked between core blocks and are shown to be accurate. Structures and veining are orientated to the orientation line and recorded in the database. All recent core is photographed wet for later reference.</li> <li><b>Tick Hill Tailings:</b> Geological logging of the total hole by field geologist, with retention of sample in chip trays to allow subsequent re-logging / re-interpretation of data.</li> <li>Tailings dam is capped by ~0.6m rock and topsoil, with a clay base – both were readily identifiable from the tailings material.</li> <li>Qualitative logging includes material lithology and colour.</li> <li>Logging data stored in both hardcopy and digital format.</li> <li><b>Tick Hill ROM Stockpile:</b> RC holes have been chip trayed (1 m intervals) and logged for lithology, weathering, sulphide mineralisation, alteration, veining.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> No original records of subsampling have been found for drilling; it is possible that this information can be sourced in the future. Database records indicate that a nominal 1m sampling regime was used in the Tick Hill Mine Corridor, with localised smaller intervals (to 30 cm) based upon lithology.</li> <li>Recent RC samples are all riffle split dry on 1m intervals at the cyclone to obtain a 2-3 kg sample. 5 metre composite samples have been collected over some intervals by spear sampling the bulk metre sample retained in a plastic bag. Target zones and zones of interest have been sampled on 1 m intervals by taking the riffle split bag. Riffle split bags within the 5 m composite zones are left in the field for later reanalysis if required.</li> <li>Recent HQ diamond core has been half sawn and sampled mainly on 1 metre intervals. Non-mineralised or low interest sections of the hole have been sampled using quarter core on 2m intervals.</li> <li><b>Tick Hill Tailings:</b> Sub-sampling was undertaken off site after samples had air dried, by riffle splitting (25mm aperture) with half sample submitted to ALS laboratory in Townsville for sample preparation, and half sample retained for reference and/or bulk sample.</li> <li>Sample was oven dried, weighed, riffle split if &gt;3.2kg, and pulverised.</li> <li>50g sub-sample for assay is riffle split from homogenized pulverised sample.</li> <li>Two field duplicates were submitted from this exploration program, results are within reasonable ranges</li> <li>Sample size is considered appropriate for the material sampled.</li> <li><b>Tick Hill ROM Stockpile:</b> RC samples were riffle split dry on 1m intervals at the cyclone to obtain a 2-3 kg sample.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> No historic detailed records of assaying QAQC is available and it is not possible to comment absolutely on the quality of assaying work undertaken. The work carried out by</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>partial or total.</p> <ul style="list-style-type: none"> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<p>previous workers used reputable assay laboratories within the region and it is reasonable to assume that the assay results stated in the exploration reports are indicative of mineralisation styles in the area. It is possible that further information can be sourced in the future. It is unknown what QAQC procedures were used by the previous workers. It is reasonable to assume that they used industry acceptable procedures for that time.</p> <ul style="list-style-type: none"> <li>The recent infill RC programme has used ore grade standards for gold. Trace level and ore grade standards have been used for drilling more distal to the pit. Blanks have been inserted by Carnaby staff approximately every 150 samples and standards (CRMs) are inserted every 50 samples. Standard CRM identification was removed prior to submitting to the external lab.</li> <li>Results of the standards and blanks were reviewed against the CRM reference sheets to check they were within tolerance.</li> <li><b>Tick Hill Tailings:</b> Analysis undertaken by ALS Townsville utilizing AA26 (50g Fire Assay), with a 0.01 ppm Au detection limit.</li> <li>Assaying and laboratory procedures are considered appropriate for gold, technique is considered a total analysis.</li> <li>No external quality control procedures have been adopted at this time.</li> <li><b>Tick Hill ROM Stockpile:</b> The RC programme has used ore grade standards for gold. Blanks have been inserted by Carnaby staff approximately every 150 samples and standards (CRMs) are inserted every 50 samples. Standard CRM identification was removed prior to submitting to the external lab.</li> <li>Results of the standards and blanks were reviewed against the CRM reference sheets to check they were within tolerance.</li> </ul>
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Historic laboratory reports for assaying services have been sighted for a small number of drilling and geochemical results. Spot checks have been made to original company reports/diagrams for selected anomalous soils geochemical results and significant drill hole intercepts. No material errors have yet been identified.</li> <li>At the prospect scale the quality of data is currently considered acceptable for exploration purposes. Further investigation and validation will be undertaken as work programs progress.</li> <li>Construction of a webhosted Maxgeo SQL database is currently in progress to house all historic and new records. Recent results have been reported directly from lab reports and sample sheets collated in excel.</li> <li>Results reported below the detection limit have been stored in the database as half the detection limit – e.g. &lt;0.001 ppm stored as 0.0005 ppm</li> <li><b>Tick Hill Tailings:</b> Significant intersections have been verified by company personnel from both Diatreme Resources and Superior Resources.</li> <li>No twinned holes have been drilled at this time.</li> <li>Geological data captured on paper and stored in electronic format, assay data stored in electronic format</li> <li>An adjustment was made to one sample assay, with an assay grade of 43.4 g/t Au being cut to 4.0 g/t Au (based on maximum assay from reconnaissance drilling) for calculation of significant intersections.</li> <li><b>Tick Hill ROM Stockpile:</b> Results reported below the detection limit have been stored in the Maxgeo SQL database as half the detection limit – e.g. &lt;0.001 ppm stored as 0.0005 ppm.</li> <li>No twinned holes were used.</li> </ul>

Criteria	JORC Code explanation	Commentary
Location of data points	<ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Tick Hill Pit:</b> The historic method of collar coordinate determination is recorded in the compiled drill-hole database with a combination of GPS surveyed and geographical and local gridding methods used.</li> <li>• Grid systems used by previous explores included AMG84/54, MGA95/54, local mine grids and local soil grids.</li> <li>• 20 historical diamond hole collars around the Tick Hill pit have been ground checked using high accuracy Trimble SP60 GNSS GPS receiver by Carnaby staff. The results show a 1.46m shift to the East and 2.5m shift to the North when comparing the database coordinates to the ground survey coordinates. The shift has been used to correct the historic database prior to performing the estimation.</li> <li>• Recent drill hole locations were obtained using a Trimble SP60 GNSS GPS in UTM MGA94 Zone 54 mode. Current RC and diamond holes were all downhole surveyed by CHAMP true north seeking gyro. Surveys were recorded every 30 m down hole and the resultant surveys checked by Carnaby staff.</li> <li>• <b>Tick Hill Tailings:</b> Handheld GPS survey of drill hole collars, accurate to within 4m.</li> <li>• UTM coordinates, Zone 54, GDA94 datum.</li> <li>• Topographic control was established by applying RL values from a high resolution DTM included with data package from previous owner.</li> <li>• <b>Tick Hill ROM Stockpile:</b> Drill hole locations were obtained using a Trimble SP60 GNSS GPS in UTM MGA94 Zone 54 mode.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Tick Hill Pit:</b> The Tick Hill Deposit features drilling on an approximate 10m drill spacing over the core of the mined mineralisation. Broader exploration drilling around the tick hill deposit ranges from 80 m x 100 m (RC and DDH) to &gt;200 m and localised regions of 50 m x 50 m of shallow percussion.</li> <li>• Recent RC drilling used both 5 m composited intervals and 1 m intervals. Recent Diamond drilling used both 2m composited intervals and 1 m intervals.</li> <li>• <b>Tick Hill Tailings:</b> Drill holes spaced at 50m x 50m, with the infill drilling offset 25m E-W and N-S from the reconnaissance drilling</li> <li>• Drill spacing and distribution is sufficient to allow reporting of exploration results.</li> <li>• Downhole sample compositing has been applied for reporting of exploration results as a length weighted total hole intersection.</li> <li>• <b>Tick Hill ROM Stockpile:</b> Drilling was carried out on an approximate 20mx20m grid using vertical holes. The drill hole spacing is appropriate to the Mineral Resource and Ore Reserve estimation procedure and classification applied.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Tick Hill Pit:</b> The Tick Hill mine drilling is comprehensive and drilled near orthogonal to the mineralisation trend.</li> <li>• Based upon reviews undertaken to date, the prospect scale orientation of data is considered acceptable for exploration targeting and review purposes. Additional verification work will be undertaken as project targets are derived through future exploration.</li> <li>• <b>Tick Hill Tailings:</b> Vertical drill holes are considered appropriate for unbiased sampling of the target mineralisation.</li> <li>• Exploration drilling has been completed on a regular grid within each paddock of the tailings dam.</li> <li>• The dam was filled from the southern end, with tailings and water flowing north along the natural slope of the ground</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>surface.</p> <ul style="list-style-type: none"> <li>There are no comprehensive records of the utilisation of the tailings dam.</li> <li><b>Tick Hill ROM Stockpile:</b> Vertical drill holes are considered appropriate for unbiased sampling of the target mineralisation.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> No detailed information is available for the historic sample security undertaken at Tick Hill.</li> <li>Recent samples are routinely taken directly to the ALS preparation lab in Mt Isa by Carnaby staff.</li> <li><b>Tick Hill Tailings:</b> Sample collection and transport from the field was undertaken by company personnel, with samples delivered directly to the laboratory.</li> <li><b>Tick Hill ROM Stockpile:</b> Samples were taken directly to the ALS preparation lab in Mt Isa by Carnaby staff.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> No detailed information is available for the historic sampling techniques and data. Data analysis of the shallow percussion based geochemistry indicates that it is less effective than soil-based geochemistry. Selected reviews of hard-copy data against data contained in the compiled exploration database has not identified any material issues.</li> <li><b>Tick Hill Tailings:</b> No audits or reviews of the sampling techniques and data have been undertaken at this time.</li> <li><b>Tick Hill ROM Stockpile:</b> No audits or reviews of the sampling techniques and data have been undertaken at this time.</li> </ul>

## Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Historic data and new data was captured in a Maxgeo web hosted SQL database. Historic data was audited by Carnaby and checked by Maxgeo staff to ensure assay data was correctly imported.</li> <li><b>Tick Hill Tailings:</b> Drill data logged manually in the field, uploaded to Micromine and validated during loading in to master database. General database validation using Micromine prior to resource estimation. Detailed database validation by manual/visual checking using Micromine.</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> The competent person has undertaken several site visits to Tick Hill, the latest in December 2019. During the visits historic holes were located and surveyed with a high accuracy Trimble SP60 GNSS GPS receiver. Check surveys of the pit were also undertaken. Historic core samples of ore intervals were located on site and density samples collected for analysis.</li> <li><b>Tick Hill Tailings:</b> Competent Person planned and supervised the exploration drilling campaigns and is familiar with the layout, mineralization and material characteristics of the tailings dam.</li> </ul>

Criteria	JORC Code explanation	Commentary
Geological interpretation	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill ROM Stockpile:</b> The competent person was responsible for the RC logging, sampling and modelling of the old ROM pad deposit.</li> <li><b>Tick Hill Pit:</b> The deposit has been interpreted on 10m sections by reviewing both the geological logging and grades.</li> <li>The confidence in the geological interpretation is considered to be good, with highly continuous mineralised structures defined by good quality drilling.</li> <li>An additional very high grade internal lode domain was wireframed using a 40g/t nominal cut-off. This domain was used to help reduce the lateral influence of extreme grades in the OK estimate.</li> <li>ROM stockpile was modelled 20m drill sections with a 20x20 drill hole spacing. Drill samples were sampled and logged on 1m intervals to determine the base of the dump.</li> <li><b>Tick Hill Tailings:</b> There is high confidence in the geological interpretation given the mineralisation comprises tailings material placed within a tailings dam.</li> <li>The geological interpretation of the mineralisation is based upon reported operations, historical photographs of the tailings dam, and drill logging.</li> <li>Alternative interpretations on Mineral Resource estimations have limited effect.</li> <li>Geology has limited use in guiding and controlling Mineral Resource estimation for tailings mineralisation.</li> <li>Continuity of grade is believed to be affected by feed grades of the mill, placement and sequencing of tails outlets in the tailings dam and sedimentary processes relating to deposition of tailings slurry.</li> <li><b>Tick Hill ROM Stockpile:</b> The Tick Hill ROM stockpile was constructed of Low Grade material from the mining operations. Given the unknown history of construction, the interpretation is based on drill hole logging and assay information. A 20m drill hole spacing was employed giving moderate to high interpretation of the stockpiled material.</li> <li>The base of the fill material was logged and this forms the base of the modelled stockpile.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Approximate dimensions of the resource are 150m (strike) x 320m (plunge) x 5 to 25m (plan width). The deposit extends to a known depth of 250m below surface.</li> <li><b>Tick Hill Tailings:</b> The Mineral Resource is confined to two cells of a polygonal tailings dam. The tailings dam fill has a surface area of approximately 8 ha and maximum dimensions of 360m E-W (each cell 170m) and 290m N-S. The tailings material is capped by 0.4 to 1.2m of rocky soil and ranges in thickness from 4 to 8.5m.</li> <li><b>Tick Hill ROM Stockpile:</b> Approximate dimensions of the ROM stockpile are 140m x 50m.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Using parameters derived from modelled variograms, Ordinary Kriging (OK) was used to estimate average block grades within the deposit.</li> <li>Surpac software was used for the estimation.</li> <li>A separate high grade core was modelled at a nominal 40g/t cut-off and top cut to the 97.7<sup>th</sup> percentile of 755g/t. High grade cuts were applied composites modelled on</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>method was chosen include a description of computer software and parameters used.</p> <ul style="list-style-type: none"> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<p>wireframes using a 0.5g/t nominal cut-off. These include 208g/t for main lode and 129g/t for hanging wall lode.</p> <ul style="list-style-type: none"> <li>The parent block dimensions used were 5m NS by 5m EW by 5m vertical with sub-cells of 0.625m by 0.625m by 0.625m. The parent block size represents 50% of the drill hole spacing in the deposit area beneath the existing pit.</li> <li>Checks of the calculated resource grade against the underground production grade shows only minor differences indicating an appropriate estimation method and top cut strategy has been selected.</li> <li>No assumptions have been made regarding recovery of by-products.</li> <li>No estimation of deleterious elements was carried out. Only Au was interpolated into the block model.</li> <li>An orientated ellipsoid search was used to select data and was based on parameters derived from the variography.</li> <li>An initial interpolation pass was used with a maximum range of 40m which filled 98% of blocks. A second pass radius of 200m filled the remaining 2% of the blocks.</li> <li>A minimum of 3 samples and a maximum of 15 samples was used on the estimations of Main Lode and HW lode. For the very high grade core, Hanging Wall Lode and minor narrow peripheral lodes, a minimum of 1 sample and a maximum of 15 samples were used in the estimation.</li> <li>Selective mining units were not modelled in the Mineral Resource model. The block size used in the model was based on drill sample spacing and lode orientation.</li> <li>Only Au assay data was analysed.</li> <li>The deposit mineralisation was constrained by wireframes constructed using a nominal 0.5g/t Au cut-off grade. An additional very high grade core envelope was modelled using a 40g/t cut-off grade.</li> <li>The wireframes were applied as hard boundaries in the estimate.</li> <li>For validation, comparisons were made on a lode by lode basis by comparing composite grades to the block estimated grades.</li> <li><b>Tick Hill Tailings:</b> Resource estimation was undertaken using Micromine software, with inverse distance cubed interpolation method used for Au</li> <li>Au grades were cut to 4.0 g/t Au (applicable to one sample only)</li> <li>No assumptions have been made regarding recovery of by-products</li> <li>There has been no estimation of deleterious elements (none known)</li> <li>A block size of 15m x 15m x 1m has been used, with a search ellipse of 50m x 35m x 3m used, minimum 2 and maximum 8 samples</li> <li>The resource estimate shows good correlation with wireframe volumes and raw drill assay data</li> <li>The block model was validated visually and statistically against drill hole data</li> <li><b>Tick Hill ROM Stockpile:</b> Estimation was done using inverse distance cubed estimation for Au using a parent block size of 10m x 10m x 2m (xyz). The model was sub-celled to 0.625m * 0.625m * 0.125m to give good resolution against the modelled boundaries of the deposit. A 30m</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>search was employed with a 1:1 major:semi -major ratio and 1:6 major:minor ratio applied for search ellipsoid. A minimum of 1 sample and a maximum of 30 samples were used to inform the estimated blocks.</p> <ul style="list-style-type: none"> <li>Material is historic Low Grade ore sourced from the Tick Pit during the last phase of mining and used to construct the old ROM pad (now rehabilitated).</li> <li>No Top cut was applied to the stockpile. The highest assay grade was 12.2g/t.</li> <li>The top of stockpile has been surveyed with a detailed LIDAR topographic survey.</li> <li>Mining will be to a hard rock base with residual material scraped up with a dozer.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> All tonnages are estimated on a dry basis.</li> <li>All density samples were fresh core samples, impervious to water.</li> <li><b>Tick Hill Tailings:</b> Tonnages are estimated on a dry basis.</li> <li><b>Tick Hill ROM Stockpile:</b> Tonnages are estimated on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> The global resource has been calculated using a 0.5g/t cut-off for gold.</li> <li><b>Tick Hill Tailings:</b> No cut-off grade has been applied as all of the tailings within the tailings dam are considered mineralised.</li> <li><b>Tick Hill ROM Stockpile:</b> Higher grade areas of the ROM have been constrained within 3 wireframe solids for the resource. A 0.5g/t cut-off was used to help guide the wireframe construction. No cut off grade was applied within the wireframes when reporting the resource.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> The deposit has previously been mined using selective open pit and underground mining methods.</li> <li>Portions of the Mineral Resource are considered to have sufficient grade and continuity to be considered for underground mining.</li> <li>No mining parameters or modifying factors have been applied to the Mineral Resource.</li> <li><b>Tick Hill Tailings:</b> Possible mining methods include hydraulic mining and conventional truck and shovel mining. No assumptions have been made regarding mining dilution as it is considered that all tailings will be able to be mined from within the confining boundaries (clay lined walls and floor) of the tailings dam.</li> <li><b>Tick Hill ROM Stockpile:</b> The stockpile has a maximum depth of 5m and will be excavated to the hard rock base.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit &amp; ROM Stockpile:</b> Processing was undertaken by previous operators at the project and good recoveries were reported from conventional cyanide leaching.</li> <li><b>Tick Hill Tailings:</b> Preliminary metallurgical testwork has demonstrated that the gold in the tailings includes a water soluble component that will be readily recoverable, and that conventional cyanide leaching of re-ground tailings achieves very high levels of gold extraction. There is no</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</p>	<p>evidence of refractory or 'locked' gold in the tailings. While a process flow sheet has yet to be developed, the metallurgical testwork to date has not identified any significant issues.</p>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit &amp; ROM Stockpile:</b> The previous mining operation included the development of waste dumps at the site.</li> <li>The area is not known to be environmentally sensitive and there is no reason to think that approvals for further development including the dumping of waste would not be approved.</li> <li><b>Tick Hill Tailings:</b> The potential environmental impacts have yet to be determined in detail, but will largely be confined to existing disturbance associated with previous mining operations on the site.</li> <li>No waste rock disposal will be required</li> <li>Process residue (tailings) can be confined to existing disturbance on site (e.g. decant pond or returned to tailings dam as a staged backfill)</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> The average bulk density was determined from an average total of 20 core samples of both the Main Lode and Hanging wall mineralisation. The samples were taken from diamond holes at a regular spacing across the deposit.</li> <li>Bulk density was measured at ALS laboratories in Perth and calculated from the weight of the sample measured in air and in water.</li> <li>All samples were fresh rock samples with no vugs or pores observed.</li> <li>Bulk density values used in the Tick Hill pit resource was 2.66t/m<sup>3</sup>.</li> <li><b>Tick Hill Tailings:</b> An assumed bulk density of 1.4 has been utilized for tonnage estimates, based on the theoretical density of silty tailings material</li> <li>The assumed bulk density correlates with the defined volume of the tailings dam (generated from high resolution DTM, site surveys and drill data) and the reported mine production</li> <li>The bulk density is assumed to be constant for both the silt and silty clay material</li> <li>Bulk density used for the tailings was 1.4t/m<sup>3</sup>.</li> <li><b>Tick Hill ROM Stockpile:</b> Bulk density used in ROM stockpile was 2.26 based on an insitu fresh density of 2.66 with an 15% swell factor applied. Material drilled in the ROM was observed to be mainly fresh.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> The resource was classified on the basis for the search ellipsoid determined from variography modelling of the main lode domain (ellipsoid dimensions = 40x22x3m). Blocks estimated within the range of the search ellipse were classified as Indicated. Blocks estimated on a broader pass to the limits of the lode wireframes were assigned an Inferred classification.</li> <li>A manual inferred re-classification was applied to the resource where there may be uncertainty over the quantity of material remaining immediately adjacent to old voids.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Tailings:</b> The primary factor for resource classification is drill spacing i.e. Au assay data density, as the mineralisation comprises mill tailings deposited in a tailings dam. Tick Hill Tailings were classified as Indicated.</li> <li>Gold assays have shown some variability, but there are believed to be sufficient assays to give confidence to global gold grades</li> <li>The result and classification used reflects the Competent Persons understanding of the deposit</li> <li><b>Tick Hill ROM Stockpile:</b> The ROM stockpile resource has been classified as Indicated based on the drill hole spacing, mining solid wireframes used and source material being low grade ore from the Tick Hill Pit.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit, ROM stockpile and Tailings:</b> The Tick Hill Tailings Dam resource model have been re-estimated by Carnaby staff for checking purposes and produced only small variances to the tonnes and grades reported in the Mineral Resource.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Mineral Resource estimate is considered to be reported with a high degree of confidence.</li> <li>The consistent lode geometry and continuity of mineralisation is reflected in the Mineral Resource classification. The data quality is good and the drill holes have detailed logs produced by qualified geologists.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> <li>The deposit is not currently being mined. Production records are available for historical open pit and underground mining completed at the deposit.</li> <li><b>Tick Hill Tailings:</b> A high level of confidence is placed on tonnage estimates as the volume of mineralisation is well defined and previous mine production has been reported</li> <li>A high level of confidence is placed on the global grade estimates due to drill spacing and sample quantity. However, there has been some variability in gold assays and poor repeatability of some samples. Head feed grades for the bulk sample were calculated to be slightly lower (&lt;10%) than expected grades calculated from contributing drill samples</li> <li>A moderate level of confidence is placed on the local grade estimates as there has been poor repeatability of some samples and short range grade variability may result from 'alluvial' processes during emplacement and deposition of tails slurry.</li> <li><b>Tick Hill ROM Stockpile:</b> A high level for confidence is placed over the stockpile tonnage. Some variability was noted in the drill assay grades. There was no production data available to reconcile against the modelled stockpile grade.</li> </ul>

## Section 4 – Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul style="list-style-type: none"> <li>The Ore Reserve is based on Mineral Resource estimates by Carnaby Resources Ltd as reported to the ASX on 5 June 2020.</li> <li>Mineral Resources are inclusive of Reserves</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person has also relied on reports from other independent consultants and site surveys in determining the viability of the Ore Reserve.</li> <li>Travel to site was not possible due to the COVID19 pandemic border closures.</li> </ul>
Study status	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul style="list-style-type: none"> <li>A Pre-Feasibility level estimation of costs, modifying factors and parameters resulting in a mine plan that is technically achievable and economic using the determined Ore Reserve.</li> <li>Ore Reserves are declared based upon a Pre-Feasibility Study that included mine plans and mine designs that are deemed technically achievable and have been tested for economic viability using input costs, metallurgical recovery and expected long term gold price, after due allowances for royalties.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied</li> </ul>	<ul style="list-style-type: none"> <li>Tick Hill Pit: The portion of the MRE above 1.0 g/t gold was evaluated in the PFS Study.</li> <li>Cut-off grades (COGs), expressed as grams per tonne of gold (g/t Au) were determined by dividing the estimated operating cost per tonne of ore treated by the revenue per gram of gold produced.</li> <li>The following inputs were used to estimate revenue per gram of gold produced: <ul style="list-style-type: none"> <li>Gold price: A\$2,300 per troy ounce</li> <li>Metallurgical recovery: 85-97% by CIL treatment</li> <li>Qld state royalty: 5% of revenue</li> </ul> </li> <li>The following inputs were used to estimate operating cost per tonne of ore treated, for potential open pit and underground mines: <ul style="list-style-type: none"> <li>Mining cost</li> <li>Processing cost</li> <li>Other royalty charges</li> <li>General &amp; administration costs.</li> </ul> </li> <li><b>Tick Hill Tailings and ROM Stockpile:</b> No cut-off grades were applied. 100% of the East Tails Dam Paddock will be mined. The high grade southern portion of the West Tails Dam Paddock was defined with a wireframe and all material contained within it scheduled for mining. The wireframe was constructed as a non-selective mining solid to capture the majority of blocks &gt;0.85g/t Au south of northing 7605530mN. 3 areas of the old ROM stockpile were defined with wireframes and all contained material scheduled for mining.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by</li> </ul>	<ul style="list-style-type: none"> <li><b>Tick Hill Pit:</b> Optimisations have been completed and were used to generate detailed staged and final pit designs. Pit design work was completed by Minesure Pty Ltd.</li> <li>Conventional open cut mining methods of drill and blast</li> </ul>

Criteria	JORC Code explanation	Commentary																
	<p>application of appropriate factors by optimisation or by preliminary or detailed design</p> <ul style="list-style-type: none"> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used</li> <li>Any minimum mining widths used</li> <li>manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion</li> <li>The infrastructure requirements of the selected mining methods</li> </ul>	<p>and load and haul utilising 85 &amp; 60t excavators and 50t trucks would be employed and are widely used in the gold mining industry and production rates and budget costings have been sourced from reputable mining contractors.</p> <ul style="list-style-type: none"> <li>The following geotechnical parameters were used in the pit design.</li> </ul> <table border="1" data-bbox="986 533 1374 696"> <thead> <tr> <th></th> <th>Hangingwall</th> <th>Footwall</th> <th>Highly weathered</th> </tr> </thead> <tbody> <tr> <td>Batter Height</td> <td>20</td> <td>20</td> <td>9.0 (max)</td> </tr> <tr> <td>Batter Angle</td> <td>70</td> <td>60</td> <td>58</td> </tr> <tr> <td>Berm Width</td> <td>6.0</td> <td>6.0</td> <td>5.0</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>3 phases of grade control will be required over the life of the pit. The first phase will occur before mining commences from the old ramp.</li> <li>The original non-regularised sub-celled resource model was used in the optimisation and design work (subcell = 0.625m x 0.625m x 0.625m).</li> <li>10-30% dilution applied to the Tick Hill model grade. Mining recovery of 70-95% was applied to the Indicated Resource to obtain the reserve. Dilution and recovery was applied by domain with those domains closer top old underground voids receiving higher dilution and lower recovery.</li> <li>The minimum mining width at the base of the pit is 10m.</li> <li>Open Pit: The resource model classification comprised Indicated and Inferred. Inferred has been included in the optimisations.</li> <li>The Ore Reserve does not include any Inferred resource and the Ore Reserve is technically and economically viable without the inclusion of the Inferred resource. Inferred material has been included in the mine plan with a 50% dilution and 50% recovery applied. Most inferred material relates to material left on the margins of the old stopes and the crown pillar remnants at the base of the pit.</li> <li>Mobilisation, establishment and all site and mine infrastructure to support open pit mining has been accounted for in the study.</li> <li><b>Tick Hill Tailings and ROM Stockpile.</b> No dilution or mining recovery factors to the Indicated Resource to obtain the reserve.</li> </ul>		Hangingwall	Footwall	Highly weathered	Batter Height	20	20	9.0 (max)	Batter Angle	70	60	58	Berm Width	6.0	6.0	5.0
	Hangingwall	Footwall	Highly weathered															
Batter Height	20	20	9.0 (max)															
Batter Angle	70	60	58															
Berm Width	6.0	6.0	5.0															
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to</li> </ul>	<ul style="list-style-type: none"> <li>Ore will be Toll treated. The metallurgical process proposed is a conventional carbon-in-leach (CIL) process plant, inclusive of single stage crushing ball mill comminution circuit and gravity concentrator as typically used in the Australian gold mining industry.</li> <li>The metallurgical process proposed is a well-tested and proven technology, dating back to the 1980s and used extensively in the Australian gold mining industry and internationally.</li> <li>A 97% metallurgical recovery has been applied for mined open pit and ROM stockpile ore based on historical recovery data at Tick Hill.</li> <li>A 85% metallurgical recovery has been applied for the treatment of gold tailings. This has been determined from test work undertaken.</li> <li>No deleterious elements are present.</li> </ul>																

Criteria	JORC Code explanation	Commentary
	<p>which such samples are considered representative of the orebody as a whole.</p> <ul style="list-style-type: none"> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications.</li> </ul>	
Environmental	<ul style="list-style-type: none"> <li>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</li> </ul>	<ul style="list-style-type: none"> <li>The Tick Hill project area has been previously mined and rehabilitated and as such there is not expected to be any environmental impacts of significance as a result of the proposed mining. Ore extracted from site will be toll treated off site. Previously disturbed areas will be preferentially used for establishing infrastructure where possible.</li> <li>All proposed mining areas lie within granted Mining Leases which offer ample area for infrastructure establishment.</li> <li>Carnaby Resources Ltd has established ground water piezometers and is involved in ongoing ground water and environmental monitoring work.</li> <li>Waste rock is typically non-acid forming.</li> <li>Tailings will be stored off site.</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</li> </ul>	<ul style="list-style-type: none"> <li>The Tick Hill Project is located ~120km SSE of Mt Isa, Qld</li> <li>Air services operate out of Phosphate Hill with a sealed airstrip ~30km south of the project area by road. The nearest town is Duchess ~40km to the north by road.</li> <li>Current infrastructure at site is minimal and consists of access roads, tracks, water tank and bore field pipeline. New infrastructure required for the proposed operation includes: <ul style="list-style-type: none"> <li>Mining</li> <li>Power</li> <li>Office and workshop</li> </ul> </li> <li>Accommodation and flights will use established facilities at Phosphate Hill.</li> <li>All proposed mining areas lie within granted Mining Leases which offer ample area for infrastructure establishment which is easily accessed by existing roads and tracks.</li> </ul>
Costs	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made, regarding projected capital costs in the study. <ul style="list-style-type: none"> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Capital cost estimates have been derived by Carnaby Resources for mine related capital costs.</li> <li>Cost estimates are based on conceptual designs for mines, site non-process infrastructure and a combination of budget quotations, factored estimates and cost data from similar operations/projects. The derivation of cost estimates is considered reasonable for Scoping Study purposes.</li> <li>Operating cost estimates have been derived by Carnaby Resources for mining costs and for general and administration costs based on indicative pricing provided by consultants and nearby operators.</li> <li>Toll treatment and haulage costs have been estimated by Carnaby Resources Ltd via application of quoted cost estimates from operating process plants and mining operators.</li> <li>The total operating cost estimate has been consolidated by Carnaby Resources Ltd.</li> <li>There are no costs relating to deleterious elements.</li> <li>All costs have been denominated in A\$ and will not be impacted by movements in exchange rates.</li> <li>Haulage costs: No specific allowance has been made for transportation of gold bullion.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>Refining costs: Gold refining charges have been estimated by independent consultant Minesure.</li> <li>The following royalties are applicable to the project and have been allowed for in the PFS:</li> <li>A 5% royalty on revenue applicable to gold mining operations is payable to the Queensland government.</li> <li>An estimated 0.8% Net Smelter Return royalty is to MIM Holdings.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul style="list-style-type: none"> <li>A gold price of A\$2,300 per ounce has been used for the PFS economic modelling.</li> </ul>
Market Assessment	<ul style="list-style-type: none"> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul style="list-style-type: none"> <li>There is a transparent, quoted market for the sale of gold.</li> </ul>
Economic	<ul style="list-style-type: none"> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant</li> </ul>	<ul style="list-style-type: none"> <li>The Ore Reserve estimate is supported by a financial model that has been prepared from operating cost inputs to a Pre-Feasibility level at Tick Hill. The model covers the current 15 month life of the Project.</li> <li>All major cost inputs have been sourced from contractors and suppliers.</li> <li>Given the short-term nature of the Project, the effects of discounting are considered immaterial on the economic analysis.</li> <li>Sensitivity studies show standard linear deviations.</li> </ul>
Social	<ul style="list-style-type: none"> <li>The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>	<ul style="list-style-type: none"> <li>All proposed mining and infrastructure areas lie within a granted Mining Lease.</li> <li>There are no Native Title claims pending over the Tick Hill project area.</li> <li>The project area is located within the boundary of the Stanbroke and Chattsworth Pastoral Leases.</li> </ul>
Other	<ul style="list-style-type: none"> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and approvals critical to</li> </ul>	<ul style="list-style-type: none"> <li>As the Tick Hill project area is a brownfields site with historical mining dating back to 1993, there are reasonable grounds to expect that Government approvals will be received when required upon successful completion of a Pre-Feasibility Study.</li> <li>Government approvals required to advance the project include converting the Mining Leases from Care &amp; Maintenance back to active mining. Given that such approvals have been granted to previous operators in recent history, there is no reason to suggest that approvals</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</p>	<p>will not be granted once again.</p> <ul style="list-style-type: none"> <li>There are currently no unresolved matters relating to a third party that would prohibit project development, should that be the decision resulting from completion of further study work.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	<ul style="list-style-type: none"> <li>Classification of the Ore Reserve is based on the Indicated Mineral Resource classification only.</li> <li>The Indicated Mineral Resource has been converted to a Probable Ore Reserve.</li> <li>The result appropriately reflects the Competent Person's view of the deposit.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Ore Reserve estimates</li> </ul>	<ul style="list-style-type: none"> <li>The Ore Reserve estimate has not been independently audited or reviewed.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</li> <li>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>The mine designs, schedule and financial model for the Ore Reserve have been completed to a Pre-Feasibility standard with a better than +/- 35% level of confidence.</li> <li>Metallurgical recoveries have been based on historical plant data.</li> <li>Costs have been estimated by independent consultants generally from budget quotations, factored estimates or cost data from similar operations/projects.</li> <li>A degree of uncertainty is associated with geological estimates and the Ore Reserve classification reflects the level of confidence in the Mineral Resource.</li> <li>There is a degree of uncertainty regarding estimates of modifying mining factors, geotechnical and processing parameters that are of a confidence level reflected in the level of the study.</li> <li>The Competent Person(s) area satisfied that a suitable margin exists that the Ore Reserve estimate would remain economically viable with any negative impacts applied to these factors or parameters.</li> <li>There is a degree of uncertainty in the commodity price used however the Competent person(s) are satisfied that the assumptions used to determine the economic viability of the Ore Reserve are based on reasonable current data.</li> <li>Sensitivity studies demonstrate standard linear deviations. The project is most susceptible to fluctuations in gold price.</li> </ul>