

# Copper Mountain Announces Preliminary Economic Assessment Results for New Ingerbelle

Vancouver, B.C., October 4, 2018 – Copper Mountain Mining Corporation ("Copper Mountain" or the "Company) is pleased to announce that it has completed a Base Case Preliminary Economic Assessment ("PEA") on its 75% owned New Ingerbelle property ("New Ingerbelle" or "the Project"), which is located one kilometer from the Company's flagship operation, the Copper Mountain Mine, in southern British Columbia. (Please see Appendix A for New Ingerbelle location map). *All dollars are in U.S. dollars unless otherwise indicated*.

# **Cautionary Statement**

The Preliminary Economic Assessment ("PEA" or "Scoping Study") has been undertaken to determine the economic viability of open-pit mining the New Ingerbelle deposit using the Copper Mountain Mine's mining fleet, process plant, tailings management and all infrastructure. The Study is based on low-level technical and economic assessments that are not sufficient to support the estimation of ore reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realized. The study results should not be considered as a production or profit forecast.

The Company has previously released the resource estimate for the New Ingerbelle deposit (June 21, 2018) which contained sufficient Measured and Indicated Resources to allow for an examination of the economic viability of extraction, however, additional studies will be needed to determine the best options for mining and transporting mined material to the Copper Mountain process plant, and therefore mine design and haulage options were only completed to a preliminary stage.

The study is based on material assumptions outlined elsewhere in this announcement and summarized in Section 4 of JORC Table 1 which is appended. The study requires material assumptions of project funding and permit amendments. While CMMC considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove correct or that the range of outcomes presented in this announcement will be achieved.

Given the uncertainties involved investors should not make any investment decisions based solely on the results of this Preliminary Economic Assessment.



New Ingerbelle is expected to have total production of approximately 770 to 790 million pounds of copper and 525,000 to 575,000 ounces of gold over its mine life, based on Measured and Indicated Resources only. The production plan assumes the use of Copper Mountain mine's existing mine equipment fleet and mill. Highlights from the New Ingerbelle PEA are summarized below.

After-tax Net Present Value (NPV) (8%) <sup>(1)</sup>	US\$390 - \$400M
After-tax Internal Rate of Return (IRR)	63% - 67%
Average annual life of mine copper equivalent (CuEq) production (1) (years 1-5)	105-115 Mlbs
Average annual copper production (years 1-5)	80-90 Mlbs
Average annual gold production (years 1-5)	55-65 koz
Mine life	12 years
C1 cash cost (per lb. of copper produced) <sup>(1,2)</sup>	US\$1.45 - US\$1.55

- (1) Assumes a long-term Canadian Dollar to U.S. Dollar exchange rate of 1.25:1 and bank consensus long-term metal prices of US\$3.08 per lb of copper, US\$1,310 per oz of gold and US\$18.90 per oz of silver. CuEq is calculated using recoveries of 83% Cu, 65% Au and 65% Ag, which is based on historical Ingerbelle mill recoveries and metallurgical test work conducted on recent exploration drill core from the New Ingerbelle deposit.
- (2) Net of by-product credits.

"New Ingerbelle represents a low capital, low risk, high quality development project in a world-class mining jurisdiction," said Gil Clausen, Copper Mountain's President and CEO. "Our next steps include evaluating various operational alternatives to test against this Base Case, which assumes supplanting Copper Mountain Mine production. We will study incorporating New Ingerbelle into the Copper Mountain mine plan using the existing mill and study expanding the mill at Copper Mountain to increase the combined annual production. New Ingerbelle should give us tremendous flexibility as we execute our low risk growth strategy. This PEA demonstrates just how much potential value this project holds."

#### Mining and Processing

The New Ingerbelle mine design uses a US\$2.75 per pound copper price Whittle pit shell (Measured and Indicated Resources only) generated using actual costs from the adjacent Copper Mountain Mine as a basis. Metal recoveries are based on historical Ingerbelle mill recoveries and metallurgical test work conducted on recent exploration drill core from the New Ingerbelle deposit.

The Whittle pit shell was used as the basis for an ultimate design pit, which has a final haul road and waste dump designs incorporated. This ultimate pit was sequenced to produce a life of mine (LOM) plan which includes three pushback phases that include haul roads. The study used the haulage profiles and the Company's experience at the Copper Mountain Mine to determine mining equipment requirements. Capital and operating costs assumptions, along with copper and gold recoveries that were used, are outlined in the tables below. The PEA is based on the Mineral Resource which was previously published on September 21, 2018.

The PEA assumes New Ingerbelle mill feed would be trucked to the Copper Mountain Mine operation, using Copper Mountain's existing mine equipment fleet, the 40,000 tonnes per day (tpd) mill and tailings facility. This would require an amendment to the Copper Mountain Mining permit. Total mill feed mined is expected to be between 155 to 195 million tonnes and total waste is expected to be 225 to 275 million tonnes resulting in a low



strip ratio of between 1.22 to 1.26:1. The production plan for New Ingerbelle is based only on Measured and Indicated Mineral Resources and no Inferred Resources were included in the production plan. All 24.6 million tonnes of Inferred Resources mined were considered as waste in the pit optimization and LOM scheduling.

A summary of mining and production parameters is provided below. Please see Appendix B for a more detailed life of mine production schedule.

Total mill feed mined (M&I only) (kt)	155,000 - 195,000
Total waste (Includes Inferred Resources) (kt)	225,000 - 275,000
Strip ratio (excluding initial capitalized pre-strip)	1.22-1.26
Total mill feed processed (kt)	155,000 - 195,000
Total copper production (klbs)	750,000 - 790,000
Total gold production (oz)	525,000 - 575,000
Total silver production (oz)	1,700,000 - 1,800,000
Average annual copper production (years 1-5) (klbs)	80,000 - 90,000
Average annual gold production (years 1-5) (oz)	58,000 - 64,000
Average annual silver production (years 1-5) (oz)	190,000 - 200,000
Average copper recovery	83%
Average gold recovery	65%
Average silver recovery	65%
Average copper feed grade (years 1-5)	0.30% - 0.34%
Average gold feed grade (years 1-5)	0.15 g/t - 0.25g/t
Average silver feed grade (year 1-5)	0.60 g/t - 0.70 g/t
Mine life	12 years

#### **Capital and Operating Costs**

The total initial capital cost required to start operations at New Ingerbelle is estimated to be approximately US\$130 to US\$140 million, which the Company could fund through internal cash flow or external debt funding depending on timing of the potential development. The estimate is largely due to the cost to complete a three-kilometre access road from New Ingerbelle to the Copper Mountain mine, pre-stripping and miscellaneous infrastructure upgrades. Once a feasibility study is completed and permit amendments are obtained, the time frame for development is expected to be 18 - 24 months. Total life of mine sustaining capital is estimated to be US\$60 to US\$65 million, which is mainly for mining equipment replacement and tailings dam expansions.

Average C1 cash costs, net of by product credits, are approximately US\$1.45 to \$1.55 per pound of copper. Total operating costs are estimated to be US\$9.60 to US\$9.80 per tonne milled, which includes mining costs of US\$3.05 to US\$3.10 per tonne milled and processing costs of US\$5.30 to US\$5.35 per tonne milled. Mining costs on a per tonne moved basis are estimated to be US\$1.40 to US\$1.50 per tonne mined. A unit cost breakdown is provided below.



Cash operating cost (US\$ per tonne milled)	
Mining	\$3.05 – \$3.10
Processing	\$5.30 - \$5.35
G&A	\$0.35 - \$0.40
Transportation	\$0.90-\$0.95
Total cash operating cost (US\$ per tonne milled)	\$9.60 - \$9.80

All capital and operating costs assume a long-term Canadian Dollar exchange rate to U.S. Dollar exchange rate of 1.25 to 1.

## **Project Economics**

The after-tax NPV assuming an 8% discount rate is US\$394 million and the after-tax NPV assuming a 10% discount rate is US\$344 million. The after-tax IRR is 65%. The economics are based on a long-term Canadian Dollar to U.S. Dollar exchange rate of 1.25 to 1 and bank consensus long-term metal prices of US\$3.08 per pound copper, US\$1,310 per ounce of gold and US\$18.90 per ounce of silver. Sensitivity analyses on various inputs, including long-term copper prices, capital costs, operating costs and foreign exchange rates were completed on the after-tax NPV (8%) and the results are summarized below.

After-tax NPV (8%)
US\$280M - \$290M
US\$390M - \$400M
US\$525M - \$535M
After-tax NPV (8%)
US\$400M - \$410M
US\$390M - \$400M
US\$380M - \$390M
-
After-tax NPV (8%)
US\$415M - \$425M
US\$390M - \$400M
US\$325M - \$335M
After-tax NPV (8%)
US\$340M - \$350M
US\$390M - \$400M
US\$440M - \$450M



#### **Mineral Resources**

A summary of New Ingerbelle's Mineral Resource as announced on September 21, 2018 is provided below.

Cu%	Tonnes	Copper	Silver	Gold	CuEq*	Copper	Gold	
cut-off grade	('000s)	(%)	(g/t)	(g/t)	(%)	(M lbs)	(M oz)	
Measured Resourc	е							
0.20%	33,987	0.34	0.68	0.21	0.48	256.6	0.234	
0.16%	43,251	0.31	0.61	0.19	0.44	293.2	0.268	
0.12%	54,396	0.27	0.55	0.17	0.39	327.6	0.300	
Indicated Resource	?							
0.20%	79,928	0.31	0.61	0.19	0.44	551.0	0.501	
0.16%	108,027	0.28	0.55	0.18	0.40	662.2	0.604	
0.12%	141,251	0.25	0.48	0.15	0.35	764.3	0.699	
Total Measured an	d Indicated R	esource						
0.20%	113,912	0.32	0.63	0.20	0.46	807.6	0.735	
0.16%	151,278	0.29	0.57	0.18	0.41	955.4	0.872	
0.12%	195,648	0.25	0.50	0.16	0.36	1,092.0	1.001	
Inferred Resource	Inferred Resource							
0.20%	47,608	0.30	0.55	0.19	0.43	319.8	0.283	
0.16%	69,035	0.27	0.49	0.16	0.38	404.5	0.361	
0.12%	93,459	0.23	0.43	0.14	0.33	480.1	0.428	

<sup>\*</sup>CuEq% above is based on metal content only. Metal prices assumed in the calculation are US\$2.75/lb Cu, US\$1,250/oz Au, and US\$16.50/oz Ag. The mineral resource used in the study has been constrained within a US\$3.50 per pound Whittle pit shell. Numbers may not add due to rounding, contained metal calculated at 3 significant figures.

The PEA is based on Measured and Indicated Mineral Resources that are included within a Whittle optimized pit shell generated using values based on copper, gold and silver metal prices of US\$2.75, US\$1,250 and US\$16.50 and recoveries of 80%, 65% and 70%, respectively.

Resources within Design Pit generated using a US\$2.75 copper price

Cu%	Tonnes	Copper	Silver	Gold	CuEq**	Copper	Gold
cut-off grade	('000s)	(%)	(g/t)	(g/t)	(%)	(M lbs)	(M oz)
Measured Resourc	е						
0.16%	36,344	0.33	0.65	0.21	0.44	261.5	0.239
0.12%	57,300	0.26	0.52	0.16	0.35	327.1	0.299
Indicated Resource	•						
0.16%	69,378	0.30	0.58	0.19	0.40	452.2	0.416
0.12%	118,101	0.23	0.46	0.15	0.31	604.0	0.553
Total Measured an	d Indicated R	esource					
0.16%	105,723	0.31	0.61	0.19	0.41	713.8	0.655
0.12%	175,401	0.24	0.48	0.15	0.33	931.2	0.851
Inferred Resource							
0.16%	11,083	0.27	0.51	0.17	0.36	65.8	0.060
0.12%	24,554	0.20	0.40	0.12	0.27	107.5	0.096



\*\* Copper equivalent (CuEq) is calculated using copper, gold and silver metal prices of US\$2.75, US\$1,250 and US\$16.50 and recoveries of 80%, 65% and 70%, respectively.

Note: Pounds of copper and ounces of gold included in the table above are contained metal within the design pit.

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. A preliminary economic assessment is preliminary in nature and there is no certainty that the preliminary economic assessment will be realized.

## **Technical Report**

A technical report for the New Ingerbelle Preliminary Economic Assessment will be filed on SEDAR within 45 days of the date of this news release in accordance with NI 43-101 regulations.

#### **Competent Persons Statement**

The information in this report that relates to Exploration Targets, Exploration Results or Mineral Resources and is based on information compiled by Peter Holbek, B.SC (Hons), M.Sc. P. Geo. Mr. Holbek is a full time employee of the Company and has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Holbek does consent to the inclusion in this news release of the matters based on their information in the form and context in which it appears.

#### **Qualified Persons**

Mr. Stuart Collins, P.E., serves as the Qualified Person as defined by National Instrument 43-101 and is the Qualified Person for information regarding the New Ingerbelle PEA. Mr. Collins is independent of the Company and has reviewed and approved the contents of this news release.

#### **About Copper Mountain Mining Corporation:**

Copper Mountain's flagship asset is the 75% owned Copper Mountain mine located in southern British Columbia near the town of Princeton. The Copper Mountain mine produces about 90 million pounds of copper equivalent per year with a large resource that remains open laterally and at depth. Copper Mountain also has the permitted, development stage Eva Copper Project in Queensland, Australia and an extensive 397,000 hectare highly prospective land package in the Mount Isa area. Copper Mountain trades on the Toronto Stock Exchange under the symbol "CMMC" and Australian Stock Exchange under the symbol "C6C".

Additional information is available on the Company's web page at www.CuMtn.com.

On behalf of the Board of

COPPER MOUNTAIN MINING CORPORATION

"Gil Clausen"



Gil Clausen, P.Eng. Chief Executive Officer

## For further information, please contact:

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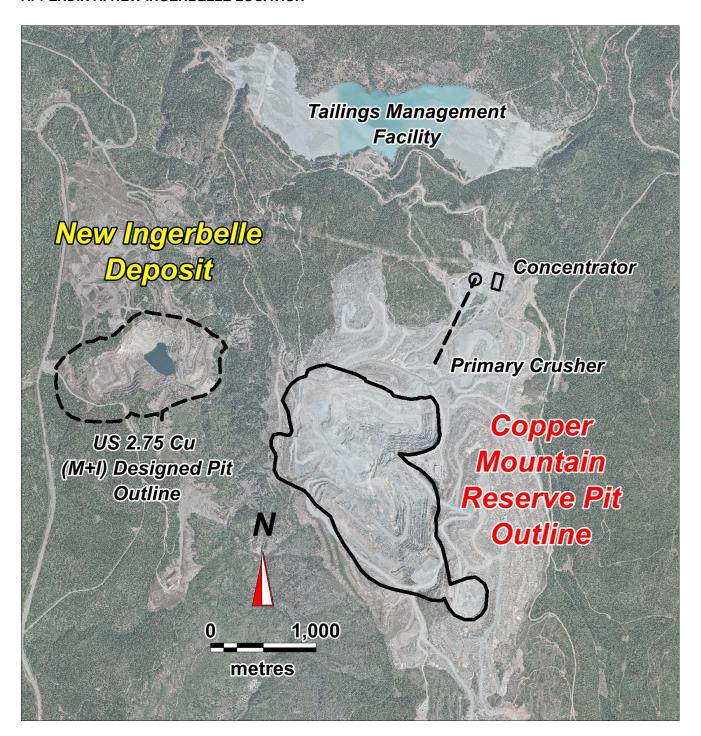
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Note: This release contains forward-looking statements that involve risks and uncertainties. These statements may differ materially from actual future events or results. Readers are referred to the documents, filed by the Company on SEDAR at www.sedar.com, specifically the most recent reports which identify important risk factors that could cause actual results to differ from those contained in the forward-looking statements. The Company undertakes no obligation to review or confirm analysts' expectations or estimates or to release publicly any revisions to any forward-looking statement.



## **APPENDIX A: NEW INGERBELLE LOCATION**



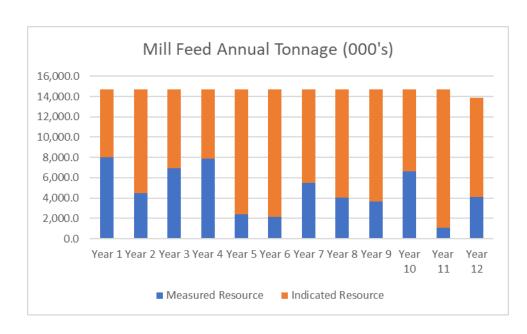


## APPENDIX B: NEW INGERBELLE PRODUCTION PLAN

The following table outlines the life of mine production plan for New ingerbelle. Tonnes mined in excess mill fees processed will be stockpiled for processing in later years.

		Years										
	1	2	3	4	5	6	7	8	9	10	11	12
Material Mined (kt)	43,794	43,458	43,674	43,636	43,801	43,800	43,800	43,800	15,783	725	-	-
Mill Feed Mined (kt)	23,107	23,942	14,291	25,944	24,178	9,059	7,599	24,771	9,913	416	-	-
Waste (kt)	20,687	19,517	29,383	17,692	19,622	34,741	36,201	19,029	5,870	309	-	-
Mill Feed Processed	14,664	14,664	14,664	14,664	14,664	14,664	14,664	14,664	14,664	14,664	14,664	13,885
Cu Feed Grade (%)	0.33%	0.35%	0.26%	0.33%	0.32%	0.21%	0.17%	0.29%	0.20%	0.15%	0.15%	0.11%
Au Feed Grade (g/t)	0.21	0.23	0.16	0.20	0.20	0.14	0.10	0.18	0.13	0.09	0.09	0.07
Copper Production (klbs)	87,100	94,662	70,268	89,037	84,669	57,041	44,782	78,852	53,513	40,586	38,954	28,493
Gold Production (oz)	63,318	71,181	50,468	60,987	60,999	42,065	31,045	54,688	39,046	28,840	27,572	20,122

The table below shows graphically the annual mill feed split between Measured and Indicated resources. Approximately 68% of the life of mine mill feed tonnage is in the Indicated category, while 32% is in the Measured category.





## **APPENDIX C: JORC CODE TABLE 1**

The following tables are provided to ensure compliance with the JORC Code (2012) edition requirements for the reporting of exploration results.

# **Section 1 Sampling Techniques and Data**

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

Criteria	
Sampling techniques	<ul> <li>Results reported are obtained from ½ diamond drill core, split with diamond blade saws. Where mineralization distribution within the core could cause bias, the core is marked with a cut-line to ensure representative sampling. Samples are usually 3m in length and placed in plastic bags, sealed and transported to the mine site laboratory by exploration staff.</li> </ul>
Drilling techniques	<ul> <li>Diamond drilling, which runs 24/7, uses NQ2 diameter rods and bits. Drill core orientation techniques were not employed.</li> </ul>
Drill sample recovery	<ul> <li>Drill core is measured against blocks placed by drillers at the end of every run. Core recovery is generally &gt;98% except within overburden areas and fault zones.</li> </ul>
Logging	<ul> <li>All core is geotechnically and geologically logged (lithology, alteration, mineralization, structure and veining). Most assay samples are 3m in length but may be shorter under certain circumstances. Sample tags are stapled into the boxes where samples are to be taken and the core is photographed.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>Core is split with a diamond saw and one half of the core is placed in a labelled sample bag with the associated assay tag. Sample collection methods are appropriate for the deposit type.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>Samples are sorted, weighed, dried and crushed prior to pulverizing to 75% passing - 200mesh. Cu and Ag are analyzed by XRF and samples with &gt;0.4% Cu are re-analyzed by Atomic Absorption. Sample pulps for all samples &gt;0.1% Cu are delivered to a commercial lab for Au analysis by either fire assay or Aqua Regia digestion followed by AA analysis. Additionally, every tenth sample is analyzed by ICP-AES for a 41-element suite, which includes Cu and Ag providing checks on the mine-site laboratory, in addition to routine insertion of standards and blanks. All pulps and coarse-reject material are retained.</li> </ul>
Verification of sampling and assaying	<ul> <li>Intersections are reviewed by the Exploration Manager following receipt of the assay results and entry into project database.</li> <li>Twinning of holes is not used.</li> <li>Original assay certificates are issued electronically as PDF files and CSV files from the lab. The CSV data are loaded in to the project database. Results for check-sample analyses for Cu between the mine lab and commercial lab are compared but full QA/QC review of data is done on a periodic basis when sufficient volumes of data are available. There are no adjustments to assay data.</li> <li>The information is reviewed by Peter Holbek, B.Sc. (Hons), M.Sc. P. Geo. Mr. Holbek is a full time employee of the Company and has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the</li> </ul>



Criteria	
Location of data points	<ul> <li>activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.</li> <li>Drill-hole collars are surveyed with differential GPS and down-hole surveys using a Reflex instrument are taken approximately every 30-80m depending on ground conditions and hole length.</li> <li>Co-ordinate system is UTM Nad83 Zone 10. Topography is by Lidar survey with 0.3m resolution.</li> </ul>
Data spacing and distribution	<ul> <li>Historical drill holes by Newmont were drilled vertically on a 45m grid (150 feet). An additional 40 underground holes were drilled at various angles from ~900m of drifting carried out for metallurgical sampling. 24 angle holes were drilled at various orientations by Princeton mining in 1994. Copper Mountain has drilled 15,000m in 44 holes which are at various orientations and inclinations (listed in news releases) to provide a drill pattern at 30 to 100m spacing on level plans. Angle drilling provides a better assessment of mineralization that is predominately vertically oriented.</li> <li>Data spacing is sufficient to establish continuity of mineralization as per resource classification definitions.</li> <li>Compositing of drill data is used for resource estimation.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Mineralization is both fracture controlled and disseminated. Fracture controlled mineralization is multi-directional but with a strong vertical component and therefore angled drilling is used to provide unbiased samples.</li> </ul>
Sample security	<ul> <li>Chain of custody is managed by the VP Exploration. Following core sawing, samples are transported to the mine's analytical laboratory by members of the exploration team. All pulps and coarse-reject material are retained. Check samples and pulps for commercial gold analysis are transported by the VP Exploration from the mine site to the commercial laboratory in Vancouver.</li> </ul>
Audits or reviews	Sampling techniques are the same as used on site for many years and have been subject of to numerous audits during feasibility and financing stages.



# **Section 2 Reporting of Exploration Results**

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Criteria	
Mineral tenement	The Company's land position is comprised of a combination of crown grants, mineral
and land tenure	claims, mining leases and fee-simple lots all of which are owned by Copper Mountain Mine
status	(BC) Ltd, which is a subsidiary of Copper Mountain Mining Corporation.
	(50) 200) William is a substantity of copper thountain willing corporation.
	The everyon grounds resignated plaines and resignated linear are in good standing and are
	The crown grants, mineral claims, and mineral licenses are in good standing and are
	included in the company's mining permit.
Exploration done by	There is little documentation of the early exploration history on the property and most of
other parties	this information must be inferred. Evidence of early workings such as trenches and adits
	indicate that early prospecting (1900-1940's) must have been fairly significant. By the mid
	1940's Granby Mining was using diamond drilling in addition to percussion drilling for
	exploration. In the course of their exploration and production drilling, Granby located most
	of the now known zones of mineralization, with the possible exception of the Virginia and
	Alabama areas, but did not necessarily define significant resources in all locations as their
	exploration was driven by the need for relatively high-grade underground resources. Most
	of Granby's exploration took place along the Copper Mountain trend (Contact Zone) where
	grades were sufficient to support underground mining. Exploration was also conducted on
	the Voigt zone but this deposit was never developed, probably due to lower copper grades
	than those along the contact zone, narrow thickness and extensive disruption of
	mineralization by post-mineral dykes (the above average gold grades in the Voigt zone
	would not have been that economically significant at the time). Although Granby
	developed some small areas of open pit ore at a number of locations during the later
	stages of the mine life, their equipment was ill-suited for efficient open pit mining and a
	majority of their exploration was directed towards development of underground
	resources. Newmont Mining Corp. initiated exploration on claims on the western side of
	the Similkameen River and was ultimately successful at delineating the Ingerbelle deposit.
	Following acquisition of Granby's Copper Mountain property, Newmont applied the same
	exploration techniques that had been successful in discovering the Ingerbelle deposit,
	namely Induced Polarization geophysical surveys and extensive diamond drilling.
	Newmont's IP surveys covered a significant part of the area east of the Copper Mountain
	fault between Pits 1 and 3 and resulted in focused exploration in the Pit 2 area. Most of
	Newmont's drilling on Copper Mountain was in the Pit 1 and Pit 2 areas. Newmont sold the
	operation (Similco Mines) to Princeton Mining in 1988, who continued with exploration,
	conducting diamond drill programs during the periods of 1989-1991 and from 1993 to
	1997. The early drill programs were located in the area extending from the eastern end of
	Pit 2 to the northeast through the Mill Zone across the Lost Horse Gulch and into the
	eastern end of the Alabama Zone. See National Instrument 43-101 report filed on SEDAR
	for property history.
Geology	The Copper Mountain alkalic porphyry copper-gold camp is part of a northerly trending
	Mesozoic tectonostratigraphic terrane termed the Quesnel Terrane, which is composed of
	a volcanic arc with overlying sedimentary sequences, all of which were built on top of a
	deformed, oceanic sedimentary-volcanic complex (Harper Ranch and Okanogan sub-
	terranes). The Quesnel Terrane was formed off-shore to the southwest of continental
	North America and accreted, with other terranes, onto North America in late Mesozoic
	times (Monger et al., 1992). Most of southern Quesnel terrane is underlain by the Nicola
	Group, a thick (7,000m) Late Triassic succession of volcanic, sedimentary, and coeval
	., ,, , , , , , , , , , , , , , , , , ,



	intrusive rocks (Preto, 1972, 1979). See National Instrument 43-101 report filed on SEDAR for more discussion on deposit type.
Drill hole Information	Information provided in Appendix C of previous press releases.
Data aggregation methods	Reported Drill-hole intercepts are length-weighted averages of uncut assays, based on a 0.2% Cu Equivalent cut-off grade with a minimum intercept length of 15m.
Relationship between mineralisation widths and intercept lengths	• New Ingerbelle is a bulk tonnage Cu-Au deposit, where drill-hole assays will be composited and used to interpolate grades into the block model which forms the basis of determining the economics of mining. Drill holes are designed to collect data where it is needed to inform block grades. The length and grades of the significant drill-hole intercepts reflect the amount and grades that will be used in the interpolation process likely to result in ore grade blocks. As such, "true width" is not an appropriate concept in this situation.
Diagrams	• Diagrams have been included in the news release. Drill collar locations are shown in table in appendix c of the relevant news releases.
Balanced reporting	Reporting of results is comprehensive for this stage of exploration.
Other substantive exploration data	There is no further material information for this stage of exploration. Additional background information on the project is publicly available on the Company's website and in reports filed on SEDAR.
Further work	Sufficient drilling has been done to validate historical data as well as provide enough data to re-classify Inferred resources to higher categories. Size of the resource is large enough to have a significant impact on mine life. A Preliminary Evaluation of mining economics is an appropriate next stage prior to additional drilling to expand the resource.



# **Section 3 Estimation and Reporting of Mineral Resources**

Criteria	Explanation
Database integrity	Historical data was used to re-estimate resources within the mined-out area, as the results of this re-estimation very closely match production (well within 3% for both tonnage and grade) thereby providing confidence in both the historical database and estimation method.
Site visits	The Competent Person has worked that the site for more than 14 years and has undertaken numerous resource estimations and studies within the mine site.
Geological interpretation	<ul> <li>Mineralization at the New Ingerbelle deposit is structurally controlled (see below) and grades are generally independent of rock type and alteration type or intensity (although alteration almost always accompanies the mineralized area).</li> <li>Data used in the resource estimate is taken from drill hole assays from approximately 38,000m of drilling carried out by Newmont Mining Corp and Princeton Mining Corp. between 1963 and 1994 as well as 15,000m of diamond drilling by Copper Mountain Mining. Initial drilling by Copper Mountain was used to verify the historical data.</li> <li>Interpretation of mineralization trends and structural controls was provided by more than 50,000 historical blast holes which were drilled on 6 to 8m centres within the mined area. Therefore, continuity of mineralization and grade ranges are well understood.</li> </ul>
Dimensions	<ul> <li>Mineralization occurs over an east-west strike length of 1,200m, and is approximately 500m wide in a north-south orientation and has a vertical dimension of more than 400m.</li> <li>Mineralization which is almost exclusively chalcopyrite, occurs as veinlets, fracture fill and disseminations. Mineralization continuity is very strong in the vertical direction but is multidirectional in plan. Vein and fracture intersections form higher grade pipe-like zones within significant expanse of lower grade mineralization.</li> </ul>
Data and drill-hole spacing	Historical drilling by Newmont between 1963 and 1972 consisted of 585 holes (approx. 90,000m). Much of this drilling was on a 45m (150 feet) gird pattern. However, a significant number of drill holes were drilled at variable orientations, many from underground bulk sampling drifts. However, a majority of the historical holes were not drilled to full depth of the current resource, and mineralization remains open to depth. Spacing of drill hole composite assays required for resource definition are described below.
Estimation and modelling techniques	<ul> <li>The estimation methodology was adapted from that used and refined over the last ten years of production at Copper Mtn. The methodology was used to estimate the mine-out Ingerbelle resource using historical data with results matching the tonnage and grade of production within 3%. Gold and copper are log-normally distributed and extreme values are rare; their effect is minimized by 7.5 composite lengths, so grade capping was not applied. Estimation was performed in GEMCOM software. Interpolation within the block model was by ordinary kriging using a spherical search, in plan with elongation in the vertical (maximum continuity) direction. Variography was carried out on historical blast hole data (~50,000 holes).</li> <li>There are no deleterious elements within the Copper Mountain camp. Sulphur is currently being analyzed on all samples for use in ARD studies.</li> <li>Grade is interpolated into 15m cubic blocks from 7.5m drill hole composites. Search radii for Measured, Indicated and Inferred categories are 21m, 42m and 64m, respectively. The maximum and minimum number of informing composites are set that so that at least a minimum of 8 composites from at least 3 holes are required for the Measured category; a minimum of 5 and 3 composites from at least 2 holes are required for the Indicated and</li> </ul>



	<ul> <li>Inferred categories, respectively.</li> <li>Copper and gold are tightly correlated, sufficiently so, that regression values based on copper grades can be substituted for missing gold assays.</li> <li>Mineralization, primarily chalcopyrite, occurs as veinlets, fracture fillings and disseminations within all rock types, except narrow post mineral dykes, within the deposit area. Higher grade areas are a function of fracture intersections and form pipe-like zones within a background of lower grade material. Mineralization is fault bounded with reasonably sharp contacts along the north and south contacts</li> <li>The resource block model was compared to drill hole composites in plan and section to determine reasonable representation of data. Different interpolation methods were compared to one another with results reflecting the normal range of values expected between methods. The proportion of blocks in different grade ranges were compared to a summary of drill hole lengths at the same grade ranges to confirm that the interpolation reflected the actual data distribution for Measured and Indicated categories.</li> </ul>
Moisture	Tonnages are estimated on a dry basis. Moisture is not deemed to have a significant effect on estimation.
Cut-off parameters	Resources are reported at various copper-only cut-off grades. The cut-off grade of 0.12% Cu reflects an estimation of break-even grade under current conditions however higher cut-off grades (eg:, 0.16 and 0.20%) could be used (depending on both metal prices and various other factors/costs) to allow the mine to process a higher grade material earlier and stockpile lower grade material for processing at end of mine-life.
Mining factors or assumptions	Truck and shovel open pit mining on 15m benches is assumed. Costs associated with haulage to the Copper Mountain concentrator were included in generation of the constraining Whittle pit shell.
Metallurgical factors or assumptions	Past production from the site indicates metallurgical amenability. The constraining pit shell was constructed using current mine recoveries which are lower than the historical recoveries achieved during mining of the Ingerbelle deposit.
Environmental factors or assumptions	The constraining pit shell required to meet the definition for resource classifications was designed so that mining activities would not have impact on the adjacent river. No other environmental factors were considered.
Bulk density	The average density for mineralization of 2.78, used at the mine site, was used for this estimate. Although density measurements on drill core indicate a range of density from 2.72 to 3.1 primarily depending on sulphide and magnetite content, it is not feasible to model density due to significant variations over small distances. The use of average density has been demonstrated to provide sufficiently accurate resource estimates for mine planning. Overburden and broken rock (waste dumps) are assigned densities of 1.6 and 2.0%, respectively.
Classification	Resources have been classified in accordance with Canadian NI:43-101 and JORC definitions.
Audits or reviews	The Preliminary Economic Assessment was prepared under the supervision of Stuart Collins,     P.E. an independent Qualified Person.
Discussion of relative accuracy/confidence	Limitations of resource estimation primarily relate to how well the drill hole data actually represents the surrounding mineralization. Mine site reconciliation studies have been used to inform the appropriate drill spacing and/or search distances used in resource estimation. While such information provides a reasonable level of confidence in the global estimate it is understood that significant variations between the estimate and reality will occur locally.



# Section 4 Estimation and Reporting of Ore Reserves

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

Criteria	Explanation
Mineral Resource estimate for conversion to Ore Reserves	<ul> <li>Mineral Resources have not been converted to Reserves as studies to the level of Pre-Feasibility have not been undertaken. The resource used for the study is based on measured and indicated resources only, that are within a ramped, mineable pit generated using US\$2.75 Cu, US\$1,250 Au and US\$16.50, metal prices; recovery estimates of 83% for copper and 65% for both silver and gold, smelter charges of US\$120-US\$125/DMT and transportation charges of US\$100 - \$105/WMT and exchange rates of US\$1 equals C\$1.25.</li> </ul>
	The Competent person has worked at the site for more than 14 years and has been on-site for numerous days in the past months. The Independent Qualified Person has visited the site as recently as early September 2018.
Study status	The Study is a Preliminary Economic Assessment as defined by Canadian NI:43-101 (comparable to a Scoping Study as defined by JORC). The study is not at the prefeasibility level required to convert Mineral Resources to Ore Reserves.
	The mine plan is preliminary in nature and while the company considers it technically achievable and the study suggests it is economically viable, it has not been demonstrated to be the best option and relies on assumptions with regards to environmental permitting, and CAPEX estimations.
Cut-off parameters	The base cut-off grade (0.12% Cu) is the lowest grade yielding an NSR value that ensures profitability with the parameters and prices used for the pit shell. Whittle software for the generation of the pit shells uses an algorithm that calculates the Net Smelter return for each block based on metal grades and estimated recoveries, smelter terms, and haulage and factors in the time-value of money by using a discount factor.
	The higher cut-off grades (0.16% Cu and 0.2%Cu) are used for determining if there is sufficient material above those grades to employ a stock-piling strategy which will likely improve the projects' NPV. Stockpiled material would then be mined at end of mine life.
Mining factors or assumptions	<ul> <li>The study only uses Measured and Indicated resources as described in Section 3, which are not reserves. Inferred resources are treated as waste.</li> <li>The mine is assumed to be developed as an open-pit, truck and shovel mining method, similar to the adjacent Copper Mountain Mine. Pit design work indicates that due to previous open-pit mining of the deposit, there are significant pre-strip requirements which have been capitalized in the financial model. Access to the mineralization requires design and construction of a haulage road for which a preliminary design and costing has been done. However, given the size of the resource and potential for expansion, other options such as conveyors may improve the project's economics and require further study. Such studies are best done at the pre- or feasibility level.</li> </ul>



Criteria	Explanation
	The existing Copper Mountain mining equipment fleet is assumed to be used to mine the New Ingerbelle deposit. The Copper Mountain mine presently mines at a production rate in excess of 200,000 tonnes per day with the existing equipment fleet, while this plan is based on an estimated New Ingerbelle mining rate of approximately 120,000 tonnes per day. Mine pre-stripping costs have been estimated for 18-24 months to provide sufficient access to 'ore' to support feeding the mill at 40,000 tonnes per day. This pre-strip cost is considered CAPEX.
	Geotechnical parameters were based on the existing pit slopes within the historical pits. Additional geotechnical studies are required for pre- and feasibility studies.
	Grade control and production drilling will be the same as currently used at Copper Mountain.
	The mineral resources used in this study were described in an announcement dated June 21, 2018 and are tabulated in this announcement. The current study used industry standard steps for pit optimization and mining design, preliminary production scheduling with factors and assumptions based on operating experience.
	<ul> <li>Mining Dilution and recovery is built into the resource estimate using the same methodology which has provided good reconciliation of the ore reserve model to production at the Copper Mountain Mine.</li> </ul>
	Bench heights were designed at 15m, as at Copper Mountain, and suitable for the available equipment.
	Inferred resources were treated as waste in this study.
	The study assumes that all the current mine infrastructure would be available for the potential development.
Metallurgical factors or assumptions	Mineralization is assumed to be processed at the Copper Mountain Mine concentrator.
	<ul> <li>Metallurgical recoveries used in the study were based on: historical production records in conjunction with differences in grind size between historical and current production together with preliminary metallurgical test work conducted on Ingerbelle mineralization. Recoveries used are: 83%, 65% and 65% for Cu, Ag and Au, respectively. Insufficient testing has been completed at this time to define metallurgical domains.</li> </ul>
	<ul> <li>Productions records exist for more than 50M tonnes of previously mined and milled material. The New Ingerbelle deposit has been historically milled with a very similar flowsheet as installed at the Copper Mountain mill, and grind and recovery information are available from that period. Historical data indicates the New Ingerbelle deposit is medium to coarse grained chalcopyrite with recoveries like those achieved from the Copper Mountain Mine Pit 2, which has similar mineralogy. Gold and silver are associated with chalcopyrite. Expected recoveries have been validated with preliminary metallurgical recovery test work. This provides</li> </ul>



Criteria	Explanation
	confidence in recovery estimates for the New Ingerbelle deposit (83% copper, 65% gold and 65% silver).  No deleterious elements are known from either Ingerbelle or Copper Mountain
Environmental	<ul> <li>Initial Pit and access roads are designed to have minimal impact on the Similkameen River which is between the New Ingerbelle deposit and the deposits of Copper Mountain. The river crossing would require a 30m to 40m bridge which has been costed into the PEA. The Mines existing environmental permit would require and amendment for this development and therefore adds risk to timing of the potential project.</li> </ul>
	<ul> <li>Mineralization and waste rock at Copper Mountain is typically not acid generating, however additional data and studies will be required by regulatory authorities.</li> <li>Tailings are planned to be stored in the Copper Mountain tailings management facility and sustaining capital require for this has been used by the study.</li> </ul>
Infrastructure	<ul> <li>All mining infrastructure has been assumed to be available in conjunction with the existing mine operation. It is assumed that some basic mine infrastructure will be required to support the New Ingerbelle mine, such as the bridge to cross the river. Such infrastructure will include electrical distribution and dewatering, which will be reviewed in further details in future study stages.</li> </ul>
	Waste dumps have been designed but will require permitting.
Costs	<ul> <li>Major costs for the study are the access roads, bridge and pre-stripping requirements and minor infrastructure additions, which have been estimated at US\$20 million for the study.</li> <li>The cost of pre-stripping is based on current full mining costs and haulage profiles:</li> </ul>
	relative accuracy would be better than +/- 10%. The construction for the access road has been costed out based on use of mine equipment at two times normal cost (due to anticipated lesser productivity). The bridge and related construction costs were estimated from supplier discussions. Sustaining capital for maintaining mining equipment is accurately known from existing operations.
	<ul> <li>Metal prices for the financial study are based on current and long-term bank consensus pricing. Long-term pricing of Cu, Au and Ag used in the financial analysis are: US\$3.08, US\$1,310 and US\$18.90, respectively</li> </ul>
	Canadian – US dollar exchange rates are based on Canadian bank consensus values.
	<ul> <li>Transportation and concentrate TC/RC are based on existing life-of-mine agreements.</li> </ul>
	There are no royalties payable on the new Ingerbelle deposit. Taxation and government charges are well known at 15% Federal and 12% Provincial and have been applied in the study.



Criteria	Explanation
Revenue factors	<ul> <li>The study is based on Measured and Indicated resources only, that are within a ramped, mineable pit shell generated using US\$2.75 Cu, US\$1,250 Au and US\$16.50 Ag, metal prices; recovery estimates, smelter and transportation charges and exchange rates described elsewhere herein. Mill-feed grades come from the block model based on the scheduled mining (GEMCOM mine-sched software) which uses haul road to mill and waste dump profiles and costs.</li> <li>Commodity price assumptions are listed above.</li> </ul>
Market assessment	The company has a life of mine agreement with a smelter for off-take based on LME pricing. Metal prices are based on current and long-term bank consensus pricing. Market assessments for long-term metal prices were not undertaken for this study.
Economic	<ul> <li>The output from the mining plan has been used for the financial model. Inflation has not been added under the assumption that it would be within time frames and values within the level of accuracy of the study and/or balanced by corresponding changes in metal prices. The discount rate used for pit design and the economic analysis is 8% which is the estimated total cost of capital for the project.</li> <li>Sensitivities were conducted on changes on input parameters including: copper price, capital costs, operating costs and dollar exchange rate, demonstrating potential project viability over a range of inputs.</li> </ul>
Social	The company has good social support for its operations and is working to update Participation Agreements with local First Nations.



Criteria	Explanation
Other	<ul> <li>The mining operation is subject to normal weather related operating risks such as severe rain or snow events, as well as labour unrest and supply of key operating parts such as fuel, grinding media, etc,</li> <li>The Copper Mountain Mine is a 75:25 partnership with Mitsubishi Materials Ltd. who arranged and backstop the debt financing and have a life of mine off-take agreement. The partnership predates Copper Mountain Mining Corp and extends</li> </ul>
	back to the 1970's when Newmont operated the mine, including the Ingerbelle deposit. Mining, (or not) of the New Ingerbelle deposit will not materially affect the partnership nor the off-take agreement.
	<ul> <li>All government approvals and permits, land holdings, etc., are in good standing. An amendment to the Copper Mountain M-29 mining permit would be required prior to commencement of mining at New Ingerbelle. Permit amendments for the mining of satellite pits have been routinely applied for and granted.</li> </ul>
	While not necessarily contingent to additional mining, proximity of the mine site to the town of Princeton, provincial highways, forest harvesting companies and other stakeholders requires continued engagement to maintain the current good relations with all such parties.
Classification	This study uses Measured and Indicated Resources only, that have not yet been converted to Reserves. The resource classification is based on data density and geostatistical estimations of mineralization continuity, as described in Section 3.
	It is the competent persons view that the resource classifications are appropriate.
Audits or reviews	Resource estimation and mine planning has been audited by an Independent QP.
Discussion of relative accuracy/confidence	The accuracy of resource and subsequent reserve estimates is best determined by mine-site reconciliation studies. Such past studies at Copper Mountain Mine have indicated the following: 1) in general, reconciliation studies indicate the resource estimation methods are appropriate and accurate to within +/- 5% on tonnes and grade for material at mill-feed grades, 2) accuracy of reserve estimates is moderate for low-grade stockpile material with typical tonnage losses of 10 to 30% (including inferred material which is not segregated during production) depending upon bench and location, 3) accuracy of estimates is lower for smaller satellite pits when compared to the larger pit areas.