

Location/Identification

MINFILE Number:	092HSE001	National Mineral Inventory Number:	092H7 Cu1
Name(s):	<u>COPPER MOUNTAIN</u> SIMILCO, COPPER MOUNTAIN (SIMILCO), COPPER MOUNTAIN MINE, SUNSET, PRINCESS MAY, SP		
Status:	Producer	Mining Division:	Similkameen
Mining Method	Underground, Open Pit	Electoral District:	Fraser-Nicola
Regions:	British Columbia	Resource District:	Cascades Natural Resource District
BCGS Map:	092H038		
NTS Map:	092H07E	UTM Zone:	10 (NAD 83)
Latitude:	49 19 52 N	Northing:	5467190
Longitude:	120 32 03 W	Easting:	679150
Elevation:	1188 metres		
Location Accuracy:	Within 500M		
Comments:	Pit 1 on Lot 1829, 750 metres east of the Similkameen River on the slopes of Copper Mountain, 14 kilometres south of Princeton.		

Mineral Occurrence

Commodities:	Copper, Gold, Silver		
Minerals	Significant:	Chalcopyrite, Pyrite, Bornite, Chalcocite	
	Significant Comments:	Minor chalcocite.	
	Alteration:	Biotite, Albite, Epidote, K-Feldspar, Scapolite	
	Alteration Type:	Potassic, Propylitic	
	Mineralization Age:	Lower Jurassic	
Isotopic Age:	193 +/- 7 Ma	Dating Method:	Potassium/Argon
		Material Dated:	Biotite
Deposit	Character:	Disseminated, Stockwork	
	Classification:	Porphyry, Hydrothermal	
	Type:	L03: Alkalic porphyry Cu-Au	
	Shape:	Tabular	Modifier: Faulted
	Dimension:	700x300x170 metres	
	Comments:	Pit 1 orebody. Age date for mineralized veins on Copper Mountain (Bulletin 59, page 43).	

Host Rock

Dominant Host Rock:	Volcanic		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Upper Triassic	Nicola	Undefined Formation	-----
Lower Jurassic	-----	-----	Copper Mountain Intrusions
Lower Jurassic	-----	-----	Lost Horse Intrusions
Isotopic Age	Dating Method	Material Dated	
-----	-----	-----	
194 +/- 8 Ma	Potassium/Argon	Monzonite	
-----	-----	-	
Lithology:	Andesitic Basaltic Tuff Breccia, Andesitic Basaltic Tuff, Andesitic Basaltic Flow, Andesitic Basaltic Agglomerate, Diorite, Diorite Porphyry Dike, Felsite Dike, Pegmatite Vein		
Comments:	Isotopic age date is for the Copper Mountain stock (Bulletin 59, Figure 2, sheet B).		

Geological Setting

Tectonic Belt:	Intermontane	Physiographic Area:	Thompson Plateau
Terrane:	Quesnel, Plutonic Rocks		

Metamorphic Type: Regional
Grade: Greenschist

Inventory

Ore Zone: COPPER **Year:** 2020
Category: Combined **Report On:** Y
Quantity: 319,091,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	1.007 grams per tonne
Gold	0.136 grams per tonne
Copper	0.311 per cent

Comments: Measured and indicated resource using a 0.10 per cent copper cut-off grade.

Reference: Copper Mountain Mining Corporation (2020-11-30): Copper Mountain Mine 65 kt/d Expansion Study and Life-of-Mine Plan NI 43-101 Technical Report, Princeton, British Columbia, Princeton, British Columbia

Ore Zone: COPPER **Year:** 2020
Category: Inferred **Report On:** Y
Quantity: 140,765,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	0.665 grams per tonne
Gold	0.140 grams per tonne
Copper	0.282 per cent

Comments: Inferred resource using a 0.10 per cent copper cut-off grade.

Reference: Copper Mountain Mining Corporation (2020-11-30): Copper Mountain Mine 65 kt/d Expansion Study and Life-of-Mine Plan NI 43-101 Technical Report, Princeton, British Columbia, Princeton, British Columbia

Ore Zone: TOTAL **Year:** 2020
Category: Combined **Report On:** Y
Quantity: 462,339 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	0.72 grams per tonne
Copper	0.23 per cent

Comments: Proven and probable mineral reserve for the combined Copper Mountain and New Ingerbelle deposits using a 0.10 per cent copper cut-off grade.

Reference: Copper Mountain Mining Corporation (2020-11-30): Copper Mountain Mine 65 kt/d Expansion Study and Life-of-Mine Plan NI 43-101 Technical Report, Princeton, British Columbia, Princeton, British Columbia

Ore Zone: COPPER **Year:** 2019
Category: Combined **Report On:** Y
Quantity: 548,720,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	0.75 grams per tonne
Gold	0.11 grams per tonne
Copper	0.24 per cent

Comments: An updated mineral resource for the combined Copper Mountain and New Ingerbelle mines was reported at 548.720 million tonnes measured and indicated grading 0.24 per cent copper, 0.11 gram per tonne gold and 0.75 gram per tonne silver.

Reference: Collins, S.E. (2019-02-25): Intergrated Life-Of-Mine NI 43-101 Technical Report for the Copper Mountain Mine Including New Ingerbelle

Ore Zone: MAIN **Year:** 2019
Category: Combined **Report On:** Y
Quantity: 424,002,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	0.79 grams per tonne
Gold	0.11 grams per tonne
Copper	0.24 per cent

Comments: Proven and probable, using a 0.10 per cent copper cut-off grade.

Reference: Collins, S.E. (2019-02-25): Intergrated Life-Of-Mine NI 43-101 Technical Report for the Copper Mountain Mine Including New Ingerbelle

Summary Production

	Metric	Imperial
Mined:	851,787,345 tonnes	938,934,824 tons
Milled:	284,147,861 tonnes	313,219,401 tons
Recovery		
Silver	382,195,720 grams	12,287,878 ounces
Gold	24,470,739 grams	786,753 ounces
Copper	1,026,512,472 kilograms	2,263,072,617 pounds

Capsule Geology

The regional geological setting is characterized by major north-striking high-angle faults which form an ancient, long-lived rift system that extends from the United States border to at least 160 kilometres north. This system was the locus of a long, narrow marine basin in which Nicola Group rocks were deposited during Triassic time, and it then accommodated basins of continental volcanism and sedimentation in Early Tertiary time. The central part of the Nicola basin is marked by an abundance of high-energy, proximal volcanic rocks and contains a large number of coeval, comagmatic, high-level plutons with several associated copper deposits. A group of such plutons, some of which are differentiated, are known as the Copper Mountain Intrusions.

The copper deposits of the Copper Mountain camp occur chiefly in a northwest-trending belt of Upper Triassic Nicola Group rocks, approximately 1100 metres wide and 4300 metres long, that is bounded on the south by the Copper Mountain stock, on the west by a major normal fault system known as the Boundary fault, and on the north by a complex of dioritic to syenitic porphyries and breccias known as the Lost Horse complex. Copper mineralization diminishes markedly to the east, where the Copper Mountain stock and Lost Horse complex diverge sharply.

The Nicola rocks in the vicinity of Copper Mountain are andesitic to basaltic and are composed predominantly of coarse agglomerate, tuff breccia and tuff, with lesser amounts of massive flow units and some lensy layers of volcanic siltstone. These rocks were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). The coarse fragmental rocks, which locally contain clasts up to 35 centimetres in diameter, rapidly grade to the southeast and south into massive flows, abundant waterlain tuff and some pillow lava. This distribution of coarse fragmental volcanics, and their spatial association with the porphyry breccia complex and with the copper deposits indicate that one or more Nicola volcanic centres were localized close to the Lost Horse complex. It also indicates the close relationship between copper mineralization and Nicola magmatism in this camp.

West of the Boundary fault, the Nicola Group consists of intercalated volcanic and sedimentary rocks that include massive and fragmental andesites, tuff and generally well-bedded calcareous shale, siltstone and sandstone.

The Copper Mountain Intrusions include the Copper Mountain, Smelter Lake and Voigt stocks. These plutons form a continuous alkalic-calcic rock series ranging in composition from pyroxenite to perthosite pegmatite and syenite. The Copper Mountain stock is a concentrically differentiated intrusion, elliptical in plan, and approximately 17 square kilometres in area. Its major axis is 10 kilometres long and strikes 300 degrees. The stock is zoned, with diorite at its outer edge grading through monzonite to syenite and perthosite pegmatite at the core. The two smaller satellites, the Smelter Lake and Voigt stocks, show no differentiation, but are similar in composition to the outer phase of the Copper Mountain stock.

The Lost Horse complex is approximately 4300 metres long and 760 to 2400 metres wide, and consists of porphyries and porphyry breccias which range in composition from diorite to syenite, showing widespread but variable albitization, saussuritization and pink feldspar alteration. These

porphyries are not a continuous mass, but are a complex of dykes, sills and irregular bodies. Some phases of the complex are mineralized, but others, such as some major dykes, are clearly post-mineral.

Radiometric age dates on the Lost Horse complex, the Smelter Lake and Voigt stocks, and on sulphide-bearing pegmatite veins indicate that the apparent age of these intrusions and of the associated mineralization is Early Jurassic (Bulletin 59, page 43; Canadian Journal of Earth Sciences, Volume 24, page 2533).

Nicola Group rocks near Copper Mountain exhibit secondary mineral assemblages which are characteristic of greenschist facies, or of albite-epidote hornfels. The volcanic rocks have widespread epidote, chlorite, tremolite-actinolite, sericite, carbonate and locally biotite and prehnite. In the immediate vicinity of the Copper Mountain stock, a narrow aureole of contact metamorphism, generally less than 60 metres wide, overprints the above assemblages and is characterized by a widespread development of granoblastic diopsidic pyroxene, green hornblende, brown to reddish biotite, abundant epidote, intermediate plagioclase and some quartz.

In the narrow belt of Nicola rocks, between the Ingerbelle mine (092HSE004) to the west and Copper Mountain, the alteration differs and, where best developed, involves widespread development of biotite, followed by albite-epidote, with subsequent local potash feldspar and/or scapolite metasomatism in both Nicola rocks and Lost Horse intrusions. The feldspar and scapolite metasomatism is characterized by intense veining and is controlled by the presence and intensity of fractures and by the proximity of large bodies of Lost Horse intrusive rocks.

The area near Copper Mountain is characterized by brittle deformation which produced a large number of faults and locally, intense fracturing. Very broad, northerly trending folds have been recognized or postulated at widely-spaced localities, but these folds decrease quickly in amplitude and down section. The area is dominated regionally by well-developed, northerly striking, high-angle faults which are best described as forming a rift system. Copper Mountain is dominated by strong easterly and northwesterly faulting. The narrow belt of Nicola rocks between Ingerbelle and Copper Mountain, confined between the Copper Mountain stock and the Lost Horse complex, is highly faulted and fractured, but does not appear appreciably folded. The strata are mostly flat-lying or very gently dipping where marker beds exist, and the few areas of steep dips can best be explained as blocks tilted by faulting. Faults in this area have been grouped in order of decreasing relative age of their latest movement into: easterly faults (Gully, Pit), "mine breaks", northwest faults (Main), northeast faults (Tremblay, Honeysuckle) and the Boundary fault. Of these, the Boundary fault is part of the regional rift system; the others appear to be local structures, the genesis and history of which are closely related to the evolution of the Copper Mountain Intrusions (Canadian Institute of Mining and Metallurgy Special Volume 15).

Three major orebodies are confined to a 1100 by 4300-metre belt. Numerous other occurrences of copper mineralization related to the Copper Mountain Intrusions are found over an area with maximum dimensions of 10 by 11 kilometres.

Development by Granby Consolidated Mining, Smelting and Power Company Ltd. during the 1950's and by Newmont Mining Corporation of Canada during 1968-69, outlined two areas of economic grade mineralization centred on Pit 1 and Pit 2. The Pit 1 (Princess May) orebody lies in a chalcopyrite zone immediately northwest of the underground mine. It is 700 metres long and up to 300 metres wide, with open pit ore extending to a maximum depth of 170 metres. The bulk of the ore was emplaced along the Main fault in massive and fragmental volcanic rocks above the lower bedded tuff horizon. Recognizable pre-ore porphyritic intrusive rocks are scarce. Sulphides occur mainly as fine disseminations of chalcopyrite and pyrite and only rarely as blebs and stringers. Mineralization at the west end of the orebody, between the stock contact and the fault, consists typically of thin fracture coatings of bornite and chalcopyrite in the fine-grained tuff bed. Pits 1 and 7 are developed in this orebody.

The Pit 2 orebody is 900 metres long, 90 to 360 metres wide and appears to have a maximum mineable depth of 170 metres. It is located 240 metres northeast of Pit 1. It lies along an indistinct and irregular contact of volcanic rocks with Lost Horse intrusive rocks, both rock types being host to ore. Faults control the boundaries of the orebody to a considerable degree. The northern boundary is formed in part by a zone of faulting and crushing; the southern boundary, although relatively straight, has not been related to any structure to date. To the west, the ore diminishes in grade in the vicinity of a strong northerly fault; to the east, the outline of the orebody becomes most irregular and mineralization grades to predominant pyrite with minor chalcopyrite. Within the orebody, ore-grade material is distributed irregularly, but several local trends and centres of copper mineralization occur. The sulphides are predominantly chalcopyrite and pyrite; bornite is rare. The largest known breccia pipe in the area, 90 metres in diameter and at least 150 metres deep, lies in the north-central part of the orebody. Although fine disseminations and fracture coatings of sulphide are common, the Pit 2 orebody has a much greater proportion of coarse blebs and veinlets than Pit 1.

The Pit 3 (Sunset) orebody begins 200 metres southeast of the Pit 1 orebody and continues southeast, along the eastern margin the Copper Mountain stock, for 1200 metres. This zone is located over old caved and collapsed workings of the underground mine and is therefore also referred to as the Subsidence Area zone (Bulletin 59, page 68). The orebody is 120 to 250 metres wide over most of its length, and is hosted almost entirely in the Nicola Group volcanics. Mineralization occurs along the northwest-striking intrusive contact, along major faults such as the Main fault or the "Mine breaks" or at the intersection of a series of steeply-dipping, west-striking, Lost Horse porphyry dykes with northeast-striking breaks and pegmatite-sheeted zones. Mineralization penetrates only a metre or so into the diorite of the stock. The form of the orebody segments is pipe-like in many places, as a result of their control by steep planar elements and division by a series of barren north-striking felsite dykes. The diameter of the segments that were mined ranged from about 15 to 60 metres. The contact orebody, which produced about half of the underground ore, was mined over widths of 9 to 38 metres, along a length of 900 metres and a maximum depth of 400 metres. The most productive areas of the mine consisted mainly of sequences of fine-grained bedded tuffs. These rocks, being more brittle than the adjacent flows, tuffs and agglomerates, shattered readily and

yielded more "ore fractures". The lower bedded unit warped downward near the contact of the stock, so that it also formed a hostrock on deeper levels of the orebody. In addition, Lost Horse Intrusions which occur within the less favourable massive flows and coarse tuffs contained more fractures, and copper mineralization was concentrated in the contact areas of these irregular masses. Ore minerals are bornite and chalcopyrite in roughly equal proportions, with most of the bornite occurring within 60 metres of the stock contact. Minor chalcocite occurs with the best bornite ore. Pyrite exists in areas of chalcopyrite mineralization, but was absent in areas where bornite was present. The sulphide content of the rocks generally decreases sharply at the limits of the mine area. This orebody has been mined from the Nos. 3, 5 and 6 pits over a vertical elevation of 450 metres and from an elaborate system of underground workings.

Concentric patterns of rock alteration about individual orebodies at Copper Mountain are not evident. Alteration appears to be related mainly to the intrusive bodies and also controlled in distribution by faults and fractures. Biotite is well-developed along the stock contact in the underground mine and appears to be associated with the orebodies, and also forms selvages on bigger veins. Pale green bleaching of both volcanic and intrusive rocks is best developed at Pit 2, but also occurs and is locally intense at several other localities throughout the camp, such as along the Lost Horse contact, in portions of Pit 1 and in the outer part of the underground mine. It appears to follow the biotite stage and involves the development of albitic plagioclase and epidote, and the destruction of biotite and disseminated magnetite. Pink potash feldspar developed along fractures in the latest stage of alteration and is often accompanied by pegmatite veins. These "veins", found in most orebodies and elsewhere at Copper Mountain, consist of potash feldspar, biotite, calcite, fluorite, apatite and also some chalcopyrite and bornite. They are usually less than 0.3 metre wide and have formed in part by replacement of the wallrock. Closely-spaced thin pegmatite veins form the northeast sheeted zones of ore fractures. As at the Ingerbelle mine, copper mineralization appears to have occurred during the intermediate and late stages of alteration (Canadian Institute of Mining and Metallurgy Special Volume 15).

The well-differentiated Copper Mountain stock is thought to have been emplaced at the roots of an active volcanic centre. The various phases of the Lost Horse complex were intruded, with rapid uplift and erosion, as a series of separate injections from a differentiating magma. Their shallower, subvolcanic level of emplacement is indicated by their finer grained porphyritic texture, their highly variable contact relationships, including chilled margins, and the pipes and irregular bodies of breccia. The various characteristics of the orebodies suggest that they formed during the later stages of this magmatism. The Copper Mountain stock was probably not the immediate source of hydrothermal fluids at that time, but it most likely was still a hot mass and could easily have provided a temperature gradient as well as a physical and chemical barrier to the sulphide-bearing fluids which probably came from the same source as the Lost Horse rocks. This hypothesis might explain, at least in part, the crude sulphide zoning noted at the mine, which is characterized by a predominance of bornite and chalcopyrite near the Copper Mountain stock, and by a sharp decrease of bornite and an increase of pyrite toward the Lost Horse complex (Canadian Institute

Magnetite-rich parts of the Copper Mountain orebodies demonstrate textures of magmatic origin; the elevated PGE (platinum group elements) content of sulphide ore supports a mantle source similar to that of coeval and possibly cogenetic PGE-rich zoned Alaskan-type intrusions in eastern Quesnellia (e.g. Tulameen Ultramafic Complex, Polaris Intrusive Complex). Analyses of sulphide concentrate from the mine yielded up to 2.8 grams per tonne palladium and 0.155 gram per tonne platinum. A sample of a bornite- chalcopyrite vein from the glory hole yielded 3.25 grams per tonne palladium (Property File - Cordilleran Roundup 1991, Program and Abstracts Volume).

Most of the ore from the Copper Mountain mine came from glory hole and underground mining, but also included production from several open pits mined from 1952 to 1957. The mine closed in 1957. From 1959 through 1962 the mine was leased and small amounts of ore shipped.

In 1977-1978 the Ingerbelle mine (092HSE004) and Copper Mountain mine consolidated operations (the Ingerbelle open pit and mill are across the Similkameen River, west of the Copper Mountain mine). Production from the Ingerbelle orebody commenced in 1972 and mining in the Ingerbelle pit was completed in August 1981. With the installation of an ore conveyor across the Similkameen River canyon, the delivery of Copper Mountain ore from Pit 2 to the Ingerbelle mill began on a limited scale in October 1980, but full production was not implemented until September 1981 after the Ingerbelle orebody was depleted. The mining operation is currently called the Similco mine.

Recent targets for exploration are the Oriole (092HSE024), which is 330 metres southeast of Pit 3. The Oriole was mined in 1955 yielding 20,863 tonnes grading 0.8 per cent copper plus 9978 tonnes grading 0.5 per cent copper (George Cross News Letter #18, 1990). Drilling in the Oriole pits defined a vertically dipping linear sulphide zone grading 0.5 per cent copper. Average thickness of the portions drilled is 45 metres with a 182-metre strike length, open to depth (George Cross News Letter #118, 1990). The Oriole zone has been mapped over a 1219 metre length along the Main fault and is up to 304 metres wide.

In the Lost Horse Gulch area, 1200 metres north of Pit 1, recent drilling has indicated that the Alabama (092HSE013) and Virginia (092HSE242) zones are connected. The Virginia deposit contains indicated (probable) reserves of 13.6 million tonnes grading 0.40 per cent copper and 0.21 grams per tonne gold. The Alabama deposit, located 579 metres to the northwest of the Virginia deposit, contains inferred (possible) reserves of 9 million tonnes grading 0.32 per cent copper (George Cross News Letter #212, 1990). Also in the Lost Horse Gulch area, there are the Mill, Voigt and Wolf Creek East zones which carry gold and copper values (George Cross News Letter #148, 1990).

Currently, the Similco operations are mining the Pit 1 and 3 orebodies. Mineable copper reserves for Pits 1, 2 and 3 are as follow (Property File - Princeton Mining Corporation, 1991, page 11):

	Tonnes	Grade	Strip Ratio
	(millions)	(Per cent)	

Pit 1	13.5	0.47	0.78
Pit 2	35.4	0.33	1.78
Pit 3	19.5	0.45	0.73

Pit 3 contains additional reserves of 66.2 million tonnes grading

0.45 per cent copper with a strip ratio of 3.27 to 1.

Company reserve estimates at January 1, 1995 were 135.6 million tonnes grading 0.36 per cent copper plus gold and silver credits (Information Circular 1995-9, page 7). Similco re-opened on August 18, 1994 after a suspension of operations in November 1993 due to low metal prices. During 1995, Princeton has milled ore from the low-grade stockpile and from the Ingerbelle East (extension) pit (phase 1). It was planned that 75 per cent of the millfeed would come from the Ingerbelle pit by August.

In 1995, with support from the Explore B.C. Program, Similco Mines Ltd. completed a modest program of geophysical survey and trenching on the P-4 zone located immediately east of Wolf Creek. This program, consisting of 9.82 kilometres of ground IP, 45 rock samples and 344 metres of excavations in 14 trenches, was designed to ground test airborne geophysical anomalies from earlier surveys. Results were disappointing in that IP anomalies were found to be due to 1-3 per cent disseminated pyrite in mildly propylitically altered Nicola volcanics. No trace was found of potassic or albitic alteration, or of Lost Horse intrusions, commonly associated with economic copper mineralization (Explore B.C. Program 95/96 - A100).

In June 1996 copper prices took a sudden and unpredictable fall as a result of events involving trading irregularities on world markets. This, coupled with the inability of Similco to obtain attractive forward prices for its 1997 production and significant capital investment required to commence mining operations on the Copper Mountain side, resulted in the decision to proceed with an orderly shutdown and to place the operation on a care and maintenance basis. Similco ceased mining operations on November 8, 1996 and milling of residual ore was completed by November 12, 1996. Production compared favourably with 1995 in spite of the shutdown. The operation went on care and maintenance status on November 15, 1996.

Because of the uncertainty as to whether the mine will re-start operations, reserves have been downgraded to the resource category. As at December 31, 1996, geological resources are as follows:

	Ore	Cutoff	Grade	Strip	
	(tonnes)	(% Cu)	(%Cu)	Ratio	
Virginia, 092HSE242	1,305,317	0.21	0.42	1.37	
Oriole, 092HSE024	2,651,453	0.23	0.437	3.70	
Salvage & Other	1,015,952	0	0.403	0.71	
Pit 2	35,376,900	0.20	0.330	1.78	
Pit 3, Phase 1	34,049,812	0.23	0.478	2.22	
Pit 3, Phase 2	19,139,810	0.23	0.493	2.57	
Ingerbelle, Phase 2, (092HSE004)	35,638,144	0.20	0.329	1.74	

TOTAL 129,190,000 0.397 2.03

Reserve data from Princeton Mining Corporation 1996 Annual Report, page 9.

Reserves estimated by the company as of January 7, 1996 were 129,163,140 tonnes grading 0.393 per cent copper, 0.155 gram per tonne gold and 1.576 gram per tonne silver (Information Circular 1998-1). During 1996, 14 million tonnes with an average grade of 0.32 per cent copper were mined from the Ingerbelle East pit. Mining ceased in November, 1996. Further drill programs are planned.

Copper Mountain Mining reported updated resource estimates in April 2009 of 359,560,000 tonnes combined measured and indicated resources grading 0.37 per cent Cu and 186,710,000 inferred resources grading 0.29 per cent Cu, calculated at 0.20 per cent Cu cut-off(http://www.cumtn.com/site/project/interim_reported_resources.html).

Copper Mountain Mining Corporation commenced production on June 4, 2011 (News Release June 6, 2011).

As of December 31, 2013 mineral reserves and resources are reported as:
(<http://www.cumtn.com>)

Category	Amount	Cu(%)	Ag(g/t)	Au(g/t)
Proven	72,000,000	0.36	1.70	0.13
Probable	73,000,000	0.32	1.06	0.11
Measured &				
Indicated	314,000,000	0.33	1.32	0.11
Inferred	324,000,000	0.28	0.56	0.07

*calculated at a 0.18 per cent Cu cut-off

Copper Mountain Mining reported updated reserves and resources in 2018 of 210,079,000 tonnes combined Proven and Probable reserves grading 0.26 per cent Cu, 0.08 gram per tonne Au, and 0.89 gram per tonne Ag. Calculated at 0.13 per cent Cu cut-off (Technical Report for the Copper Mountain Mine November 10, 2018). Updated resources were also reported, but then revised and reported in a news release of 323,000,000 tonnes combined Measured and Indicated grading 0.26 per cent Cu, 0.08 gram per tonne Au, 1.05 grams per tonne Ag, calculated at 0.12 per cent Cu cut-off (Copper Mountain Mining Corporation News Release November 15, 2018).

In January 2019, an updated mineral reserve for the Copper Mountain mine was reported at 424.002 million tonnes proven and probable grading 0.24 per cent copper, 0.11 gram per tonne gold and 0.79 gram per tonne silver, using a 0.10 per cent copper cut-off grade (Collins, S.E. (2019-02-25): Intergrated Life-Of-Mine NI 43-101 Technical Report for the Copper Mountain Mine Including New Ingerbelle).

Also at this time, an updated mineral resource for the combined Copper Mountain and New Ingerbelle mines was reported at 548.720 million tonnes measured and indicated grading 0.24 per cent copper, 0.11 gram per tonne gold and 0.75 gram per tonne silver with an additional 237.254 million tonnes inferred grading 0.21 per cent copper, 0.10 gram per tonne gold and 0.50 gram per tonne silver, using a 0.10 per cent copper cut-off grade (Collins, S.E. (2019-02-25): Intergrated Life-Of-Mine NI 43-101 Technical Report for the Copper Mountain Mine Including New Ingerbelle).

In September 2020, an updated mineral resource for the combined Copper Mountain and New Ingerbelle deposits, using 0.18 and 0.10 per cent copper cut-off grades, was reported at 319 091 000 and 654 395 000 tonnes measured and indicated grading 0.311 and 0.223 per cent copper, 0.136 and 0.096 gram per tonne gold and 1.007 and 0.684 grams per tonne silver, respectively, with an additional 140 765 000 and 323 502 000 tonnes inferred grading 0.282 and 0.199 per cent copper, 0.140 and 0.097 gram per tonne gold, 0.665 and 0.501 gram per tonne silver, respectively, whereas the proven and probable reserve was reported at 462 339 000 tonnes grading 0.23 per cent copper, 0.72 gram per tonne silver and 0.10 gram per tonne gold using a 0.10 per cent copper cut-off grade (Copper Mountain Mining Corporation [2020-11-30]: Copper Mountain Mine 65 kt/d Expansion Study and Life-of-Mine Plan NI 43-101 Technical Report, Princeton, British Columbia, Princeton, British Columbia).

Bibliography

EMPR AR 1897-610; 1898-1112,1113,1196; 1899-741; 1900-897,898,902, 903; 1901-1087,1088,1167-1170, 1231; 1902-304,305; 1904-G238,G301; 1905-J207; 1906-H180.; 1908-J125,J126; 1912-K166,K190; 1913-K242-K245; 1914-K365-K368; 1915-97,K198,K200,K201; 1917-F207,F208, F216,F217; 1918-K215-K219; 1919-N170,N171; 1920-N159; 1921-G179; 1922-N168,N169; 1923-A191; 1925-A363,A364; 1926-A219-A223; 1927-C241-C246,C400,C401; 1928-C269,C270; 1929-C269-C276,C438,C439; 1930-A367,A368; 1932-A140; 1937-D33,D34; 1938-D38,D39; 1939-A98; 1940-A83,A84; 1941-A77; 1942-A68,A69; 1943-A67,A68; 1944-A64,A65; 1945-A90-A92; 1946-A122,A123; 1947-A137,A138; 1948-A120-A122; 1949-A130,A131; 1950-A113,A114; 1951-A129,A130; 1952-A134-A136; 1953-A103-A106; 1954-A114-A116; 1955-40,41; 1956-72,73; 1957-33; 1958-A45; 1959-A47; 1960-57; 1962-A48; 1966-176; 1967-178; 1968-206
EMPR ASS RPT 24041, 24620, 29220, 30119, 30945

EMPR BULL *59, pp. 63-68
 EMPR ENG INSP Annual Report 1989, 1990
 EMPR EXPL 1996-A9,D6; 1997-34; 2009-39,45-46,48,51,58; 2010-60,67-68,75; 2011-47-48,50,54,57; 2012-67,69,73; 2013-94,96,102; 2014-67-69,71-72,77-78
 EMPR Explore B.C. Program 95/96 - A100
 EMPR FIELDWORK 1992, pp. 259-268; 2009, pp.163-172
 EMPR GEM 1969-283-287; 1970-385
 EMPR GEOS MAP 2004-3
 EMPR GF 2000-5
 EMPR INF CIRC 1994-19, p. 7; 1995-1, p. 7; 1997-1, p. 9; 1998-1, pp. 11, 16; 1999-1, pp. 9, 11; 2020-1, p. 4; 2021, p. 4; 2022-1, p. 87-89
 EMPR MAP 65 (1989)
 EMPR MINING Vol.1 1975-1980; 1981-1985; 1986-1987; 1988
 EMPR OF 1992-1; 1994-1; 1998-10
 EMPR PF (Stevenson, J.S. (1950): Notes on Copper Mountain Geology; Sinclair, A.J. and White, W.H. (1967): Abstract on Age of Mineralization and Post-Ore Hydrothermal Alteration, Copper Mountain, B.C.; Baillie, A.S. (1943, 1944): Memoranda to mine employees; Memoranda from Chief Mining Engineer; Hedley, M.S. and Holland, S.S. (1944): Report on Copper Mountain Mine; Fahmi, K.C. (1949): Report on Geology of Copper Mountain Mine; Preto, V.A.G. (1970): Further Potassium-Argon Age Dating at Copper Mountain, B.C.; Copper Mountain mine maps; The Granby Consolidated Mining, Smelting and Power Company, Limited Annual Report 1940, 1941; see Ingerbelle Property File (092HSE004), The Tenth Commonwealth Mining and Metallurgical Congress, Sept. 2-28, 1974 - The Similkameen Copper Mine; Princeton Mining Corporation (1991): 1990 Annual Report (see 092HSE242); Field notes; Princeton Mining Corporation Website (Dec. 1997) Similco Mines Ltd., 5 p.)
 EMPR PFD 901360, 903217, 8288, 8294, 8295, 8306, 8778, 8779, 8780, 8781, 8782, 8783, 8784, 8785, 8786, 8787, 8788, 8789, 8790, 8791, 8792, 8793, 8794, 8795, 8796, 8797, 8798, 8799, 8800, 8801, 8802, 8803, 8804, 8805, 8806, 8807, 8808, 8809, 10071, 904905, 904906, 905949, 752543, 752544, 752545, 752546, 752547, 752548, 752549, 752550, 752551, 752552, 752553, 752554, 752555, 752556, 752557, 752558, 906418, 752541, 752542, 906713, 906801, 907087, 907164, 907207, 907245, 907486, 907641, 907710, 908034, 908067, 908392, 908676, 908813, 908814, 811546, 909049, 909123, 822327, 812969, 812368, 887629, 887630, 887631, 887632, 887633, 887634, 887635, 887636, 887637, 887638, 887639, 887640, 887641, 887642, 887643, 887644, 887645, 887646, 887647, 887650, 887651, 887652, 887653, 887654, 887655, 887656, 887658, 887659, 826711, 802271, 802383, 802386, 802388, 802389, 802390, 802391, 802392, 802393, 802396, 802397, 802398, 802400, 890010, 671397, 671399, 21242, 21243, 21244, 504106, 504107, 504108, 504109, 504113, 504715, 507193, 507194, 507380, 507381, 507411, 507412, 507460, 509464, 509465, 509466, 509467, 675653, 675664, 675694, 675739, 675740, 675741, 675742, 675743, 675744, 676914, 676915, 676916, 676917, 676918, 676919, 676920, 676921, 676922, 676926, 676927, 896430, 896454, 681210
 EMPR PRELIM MAP 14
 EMR MP CORPFILE (The British Columbia Copper Company, Limited; Canada Copper Corporation, Limited; Allenby Copper Company, Limited; The Granby Mining Company Limited; Similkameen Mining Company Limited; Newmont Mining Corporation; Newmont Mines Limited)
 GSC BULL 239, pp. 140,141
 GSC MAP 300A; 888A; 889A; 1386A; 41-1989
 GSC MEM 171; 243
 GSC P 85-1A, pp. 349-358
 GSC RPT 986 (1908)
 GSC SUM RPT 1906, pp. 50-52
 CANMET IR 617, pp. 17-21
 CIM Trans. Vol. 18, pp. 192-201 (1915)
 CIM Vol.44, No.469, pp. 317-324 (1951); Vol.61, No.673, pp. 633-636 (1968); Vol.64, No.708, pp. 58-61 (1971); Vol.64, No.709, pp. 37-61 (1971); Vol.66, No.732, pp. 105-112 (1973); Vol.66, No.736, pp. 58-64 (1973); July 1975, pp. 90-97; Special Volume 8, pp. 315-320 (1966); Special Volume *15, pp. 359-375 (1976)
 CJES Vol. 24, pp. 2521-2536 (1987)
 GCNL #117, #139, 1988; #230,1989; #18(Jan.25),#45(Mar.5),#81(Apr.26), #118(Jun.19),#148(Aug.1),#212(Nov.1),#215(Nov.6),1990; #53(Mar.15), 1991; #30(Feb.12), 1992; #60(Mar.26), #166(Aug.28), #214(Nov.6), 1997; #110(June 9), 1998
 N MINER June 13, 1988; Jan.2, 1989; May 14, July 2,30, Aug.13, Nov.19, 1990; Apr.1,1991; June 9, 1997
 PR Copper Mountain Mining Corp. Jun.6,2011, Jan.30,2012, Jan.17,2013, Jan.15,2014, Jan.19,2015, Jan.14,2016; Nov.15,2018, March 27, 2023
 W MINER Vol.35, No.2, pp. 46-49,53,54 (1962); Feb., May 1979
 WWW <http://www.cumtn.com>; [http://www.infomine.com/index/properties/SIMILCO_MINE_\(COPPER_MOUNTAIN\).html](http://www.infomine.com/index/properties/SIMILCO_MINE_(COPPER_MOUNTAIN).html)
 Imperial Metals Corporation Annual Report 1997, pp. 10,11
 International Geological Congress, Canada (1972), Guidebook - Field Excursion
 Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia, Unpub. Ph.D. Thesis, University of British Columbia
 *Princeton Mining Corporation 1996 Annual Report, pp. 8,9

Collins, S.E. (2018-11-10): NI 43-101 Technical Report for the Copper Mountain Mine

*Collins, S.E. (2019-02-25): Intergrated Life-Of-Mine NI 43-101 Technical Report for the Copper Mountain Mine Including New Ingerbelle

*Copper Mountain Mining Corporation (2020-11-30): Copper Mountain Mine 65 kt/d Expansion Study and Life-of-Mine Plan NI 43-101
Technical Report, Princeton, British Columbia, Princeton, British Columbia

Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	Y
Date Revised:	2024/05/31	Revised By:	Kerri Shaw (KLS)	Field Check:	Y