Location/Identification

MINFILE Number: 104H 005
National Mineral Inventory Number: 104H12 Cu1
Name(s): **RED CHRIS**
MAIN, EAST, CHRIS, RED, SUS, WINDY, MONEY, WINDY 1-12, YELLOW CHRIS, GULLEY, FAR WEST, RED-CHRIS
Status: Producer
Mining Division: Liard
Electoral District: Stikine
Regions: British Columbia
Resource District: Skeena Stikine Natural Resource District
BCGS Map: 104H061
NTS Map: 104H12W
UTM Zone: 09 (NAD 83)
Latitude: 57 41 59 N
Northing: 6395565
Longitude: 129 48 19 W
Easting: 452004
Elevation: 1562 metres
Location Accuracy: Within 500M
Comments: Main zone, 2.5 kilometres northwest of Kluea Lake approximately 11 kilometres east of Highway 37, and 82 kilometres south of the community of Dease Lake (Assessment Report 32757).

Mineral Occurrence

Commodities: Copper, Gold, Silver, Lead, Zinc, Molybdenum

Minerals
Significant: Chalcopyrite, Bornite, Pyrite, Sphalerite, Galena, Molybdenite
Associated: Quartz, Pyrite, Magnetite, Carbonate, Gypsum
Alteration: Quartz, Sericite, Kaolinite, Ankerite, Pyrite, Carbonate, K-Feldspar, Biotite
Alteration Comments: Also magnetite, hematite, martite, magnesite, and epidote.
Alteration Type: Sericitic, Potassic, Carbonate, Silicific'n
Mineralization Age: Lower Jurassic

Isotopic Age: 203.8 +/- 1.3 Ma
Dating Method: Uranium/Lead
Material Dated: zircon

Deposit
Character: Vein, Stockwork, Disseminated
Classification: Porphyry, Hydrothermal, Epigenetic
Type: L04: Porphyry Cu +/- Mo +/- Au, L03: Alkalic porphyry Cu-Au
Dimension: 1700x750x475 metres
Comments: The crystallization age of the Red stock, 203.8 +/- 1.3 Ma (Lower Jurassic), is considered a firm maximum age for mineralization.

Host Rock

Dominant Host Rock: Plutonic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Upper Triassic	Stuhini	Undefined Formation	------
Lower Jurassic	------	------	Unnamed/Unknown Informal

Isotopic Age	Dating Method	Material Dated
------	------	------
203.80 +/- 1.3 Ma	Uranium/Lead	Zircon

Lithology: Hornblende Feldspar Porphyry, Hornblende Monzonite Porphyry, Volcanic Wacke, Siltstone, Augite Porphyritic Basalt, Flow Breccia, Pillow Breccia, Mudstone, Volcanic Sandstone
Comments: Age date from Fieldwork 1996, pages 291-297.

Geological Setting

Tectonic Belt: Intermontane
Physiographic Area: Tanzilla Plateau
Terrane: Plutonic Rocks, Stikine, Bowser Lak

Metamorphic Type: Regional

Grade: Greenschist

Inventory

Ore Zone: RED-CHRIS **Year:** 2020

Category: Combined **Report On:** Y

Quantity: 301,500,000 tonnes **NI 43-101:** Y

Commodity	Grade
Gold	0.27 grams per tonne
Copper	0.36 per cent

Comments: Proven plus Probable reserves.

Reference: Information Circular 2021-01, page 4.

Ore Zone: RED-CHRIS **Year:** 2020

Category: Combined **Report On:** Y

Quantity: 1,034,000,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	1.14 grams per tonne
Gold	0.35 grams per tonne
Copper	0.35 per cent

Comments: Measured plus Indicated resources. The resource figures do not consider any mining since the start-up in 2014.

Reference: Information Circular 2021-01, page 4.

Ore Zone: RED-CHRIS **Year:** 2020

Category: Inferred **Report On:** Y

Quantity: 787,100,000 tonnes **NI 43-101:** Y

Commodity	Grade
Silver	1.04 grams per tonne
Gold	0.32 grams per tonne
Copper	0.29 per cent

Comments: Resource; these resource figures do not consider any mining since the start-up in 2014.

Reference: Information Circular 2021-01, page 4.

Summary Production

		Metric		Imperial	
Mined:		38,871,018	tonnes	42,847,962	tons
Milled:		38,581,979	tonnes	42,529,351	tons
Recovery	Silver	13,062,766	grams	419,978	ounces
	Gold	4,615,378	grams	148,388	ounces
	Copper	125,662,550	kilograms	277,038,500	pounds

Capsule Geology

The Red Chris porphyry copper-gold deposit lies approximately 11 kilometres east of Highway 37 and 82 kilometres south of the community of Dease Lake, in the highly dissected and rolling terrain of the Tanzilla Plateau.

The deposit is hosted by the Red stock, an east-northeast elongated intrusive body of pervasively quartz-sericite-ankerite-pyrite (phyllic) altered, and

faulted subvolcanic, hornblende monzonite porphyry intrusion. The stock intrudes and alters Upper Triassic Stuhini Group massive volcanic wackes, siltstone and augite-porphyritic basalt in the southwestern area of the Todagin Plateau. The southern margin of the stock is faulted against Middle Jurassic sedimentary rocks of the Bowser Lake Group. Augite phyric basalts, locally designated "Dynamite Hill volcanics" on the Red Chris property, underlie the area directly north of the Red stock. They consist chiefly of monolithic flow and pillow breccias. Sedimentary rocks comprise thick sections of medium-grained massive felspathic volcanic wacke with occasional thinner intervals of bedded mudstone-fine volcanic sandstone. R.M. Friedman has reported a new uranium-lead zircon crystallization age determination for the Red Stock of 203.8 +/- 1.3 Ma (Fieldwork 1996, page 294).

The following deposit description is largely an edited excerpt of the 1994 article by C.H. Ash and P.K. Stinson titled "Geology of the Todagin Plateau and Kinaskan Lake Area Northwestern British Columbia (Fieldwork 1994). The reader is referred to that article for further details.

Chalcopyrite and localized concentrations of bornite are commonly associated with zones of quartz stockwork and sheeted quartz veining. The quartz stockwork forms a steeply dipping, high-grade core zone associated with intense and pervasive carbonatization that is surrounded by and gradational into barren to weakly mineralized, phyllic (quartz-sericite-ankerite-pyrite) altered host stock. Quartz stockwork zones dip steeply to the north and parallel the long axis of the Red stock.

Early drilling outlined two coalescing, east-northeast trending mineralized zones designated the Main and East zones which make up the Red Chris deposit. More recent drilling by American Bullion Minerals has successfully defined continuity of high-grade copper-gold reserves along strike and to depth from previously outlined mineralization. The strike length of the Red Chris deposit is on the order of 1.7 kilometres in length with widths ranging from 250 to 700 metres. Drilling in the East zone intersected significant copper mineralization to a depth of 750 metres with no evidence of diminishing. The deposit becomes both wider and richer with depth.

Cross-sections through the East and Main zones indicate that most of the higher-grade copper and gold is contained within quartz stockwork zones. Local intersections of laterally discontinuous intense quartz stockwork, with narrow zones of sheeted quartz material are flanked by moderate to strongly developed quartz stockwork which invades carbonate-sericite-pyrite altered plagioclase-hornblende porphyritic host rocks.

Quartz stockwork consists of planar, grey quartz envelopes and vein-fill material characterized by sharp contacts with the host plagioclase hornblende porphyry. Veinlets are from 2 to 20 millimetres wide and form a randomly orientated network pattern with at least two generations of veining. Disseminated chalcopyrite, in addition to minor pyrite, hematite and bornite are commonly found as both disseminations and thin veinlets in both quartz veins and selvages of hostrock between the veins.

In the stockwork zones, the host intrusion is affected by intense and pervasive carbonate alteration associated with lesser fine-grained quartz, sericite, and sulphides. Mafic minerals are intensely altered to a probable combination of chlorite, sericite and ankerite. Plagioclase phenocrysts are locally kaolinized, but are more often strongly sericitized. Although difficult to detect in fresh drill core, orange-brown weathering of exposed core emphasizes the presence of abundant fine-grained iron carbonate. Preliminary scanning electron microprobe investigation indicates that hostrock selvages are dominated by roughly equal abundances of ankerite and iron-rich magnesite. These two minerals occur as a fine-grained, anhedral granular intergrowth with lesser pyrite and sericite.

Several zones of sheeted quartz-sulphide material associated with zones of intense silica flooding and quartz stockwork occur in the East zone. The fabric defined by the sheeted zone strikes between 070 and 090 degrees. Discontinuity of sheeted zones in drill core is most likely a function of later faulting. Sheeted material consists of 2 to 4 millimetre alternating bands of light and dark grey microcrystalline quartz carrying chalcopyrite and pyrite, with minor bornite. Dark grey quartz bands contain skeletal hematite and remnants of hostrock that are intensely altered to sericite, hematite, and clay. In drill core, the upper transition from intensely developed quartz stockwork mineralization to sheeted material is gradational, whereas the lower contact is faulted. This is indicated by the abrupt truncation of sheeting and intense stockwork by carbonate breccia.

Drillhole 94-106 intersected significant bornite mineralization. Between 206 and 495 metres depth, bornite comprises more than half of the copper-bearing mineral and locally dominates. It occurs as disseminations and thin, 1 to 3 millimetre fracture-filling stringers with hematite within the altered stock and to a lesser degree in quartz veins where it is locally abundant.

Data demonstrates a correlation of high copper with elevated gold and silver. The data also demonstrate that the highest concentrations of these elements are present in quartz-rich samples, either sheeted or stockwork. Other base metal concentrations are typically low with zinc being weakly anomalous. These elements appear to show no correlation with copper and gold values. Iridium was the only platinum group element assayed for. Abundances are below the detection limit of 5 parts per billion in all samples.

Four main alteration types are evident at Red Chris. The most prominent consists of phyllic (plus carbonate) with interfingering mottled phyllic alteration and extends over an area of 2 to 3 square kilometres. Potassic alteration is sporadic and limited in both extent and intensity. Propylitic assemblages are prevalent in the mafic volcanics to the north of the Main and East zones and has been identified locally in late phase dikes.

Phyllic alteration is generally pervasive and is the most widespread alteration type. Generally, the altered rock is pale grey and retains some primary texture. Weak phyllic (to weak argillic) alteration of the Red stock has altered plagioclase to sericite and kaolinite. Locally, plagioclase has a bleached

appearance and typically hornblende is intensely altered to completely destroyed. In places, the groundmass appears to be silicified. However, the orange-brown colour of weathered drill core suggests the presence of significant amounts of carbonate. Preliminary review of thin sections and SEM investigations suggest that carbonate material is composed predominantly iron-magnesite and ankerite, with usually 10 to 20 per cent replacement of the hostrock. Vein pyrite exceeds disseminated pyrite for a total content of 5 to 10 per cent. Weak quartz-pyrite +/- chalcopyrite stringers are cut by late, white calcite veins. Mottled phyllic alteration partially destroys primary porphyritic texture. It is characterized by distinctive, 3 to 7 millimetre spherical and irregular pale grey patches of intense quartz-sericite alteration that comprise from 10 to 15 per cent of the rock. Typically, fine-grained to blebby pyrite occurs near the centre of these patches. Altered groundmass is beige, probably indicating significant ankerite replacement. Pyrite veins are common and have well developed sericite-quartz envelopes. Total pyrite content varies from 5 to 10 per cent.

On the whole, areas of potassic alteration are minor, representing roughly 5 to 10 per cent of the total alteration zones. Potassic zones are generally only a few metres wide and are discontinuous, with gradational to sharp contacts with the phyllic-altered host and quartz stockwork. Although locally the porphyritic texture is preserved, it is often totally destroyed and replaced by fine-grained potassium feldspar, giving the rock a light orange-brown to salmon colour. The potassic alteration assemblage includes 2 to 7 per cent hematite after magnetite (martite) and finely disseminated magnetite and rare veins. Generally, 2 to 4 per cent disseminated pyrite occurs in a fine-grained to blebby texture, with few pyrite stringers. Narrow quartz stingers contain pyrite and chalcopyrite. Locally, hornblende is altered to fine-grained, felted brown biotite. Panteleyev (Exploration and Mining in British Columbia 1975) commented on the fact that hematite and siderite impart a buff pink appearance to hand specimens that may be mistaken for potassium feldspar flooding.

Propylitic alteration is poorly developed. It consists of 5 per cent disseminated epidote and 2 to 5 per cent finely disseminated pyrite and has only been identified in the augite porphyry (Dynamite Hill) volcanics immediately to the north of the main zones of stockwork mineralization. No epidote was noted in drill core during the 1994 drilling program.

A gypsum zone located west to southwest of the Main zone contains weak to strong gypsum veining but its extent is poorly defined. These veins appear to be late and cut mineralization (Schink, 1977). Drilling during the 1994 field season was concentrated within the East and Main zones with very little work done in this area.

Carbonate veins and alteration of groundmass minerals to ankerite and iron-rich magnesite are widespread throughout the Red stock. Surrounding volcanics and sediments are also locally intensely carbonatized. Generally, the zones external to the stock are barren of sulphides, appear to be very late and may be unrelated to the main copper-gold mineralizing event, at least in part.

Prominent east-northeast trending structures have controlled the orientation of the Red stock and the zone of mineralization. Faults active either before or during the mineralizing event are generally healed and associated with intense silicification. The fault orientation has been defined as striking 060 to 090 degrees and dipping approximately 75 degrees to the south. These are normal faults with dominantly dip-slip movement. Fault gouge zones produced by reactivation of earlier structures vary from several centimetres to 50 metres in width and are a prominent feature throughout the drill core. The gouge material contains rounded centimetre-sized fragments of altered and mineralized (pyrite-chalcopyrite) Red stock in a matrix of clay, quartz, and carbonate. As emphasized by Newell and Peatfield (CIMM Special Volume 46), disruption of the mineralized zone by faulting is an important aspect of the deposit but difficult to characterize on sections due to uncertainty in correlating the many fault zones from drillhole to drillhole.

The Red Chris has been characterized genetically as a porphyry copper-gold deposit (Panteleyev, Geology, Exploration and Mining in British Columbia 1972; Exploration and Mining in British Columbia 1975; Schink, 1977) or alkaline porphyry deposit (McMillan, Paper 1991-4; Newell and Peatfield, CIMM Special Volume 46). Both Schink (1977) and Newell and Peatfield have emphasized the apparent ambiguity of features that are indicative of both alkalic and calc-alkalic deposit types. The overall size and, in particular, the metal signature, with significant gold values associated with higher grade copper and a molybdenum deficiency are clearly indicative of alkaline porphyry deposits. The nature of the mineralization, however, as predominantly quartz stockwork zones associated with intense and pervasive carbonatization and phyllic alteration of the host intrusion is not. Classification of the Red Chris deposit as to the type of porphyry remains problematical. Reference to the deposit as strictly a copper-gold porphyry with no attempt to further refine the porphyry type is preferable at this stage.

In 1956, the area was initially explored by Conwest Exploration Company resulting in the staking of the Windy claims which subsequently lapsed after limited work. Great Plains Development Company of Canada staked the Money and Chris claims in 1969-70. Great Plains had become wholly owned and subsequently dissolved by Norcen in 1975. Drilling by Texasgulf in 1973-76, 1978 and 1980 is reported to have totaled 16,476 metres in 118 percussion and diamond-drill holes. Property-wide geological, geochemical, and geophysical surveys were also conducted during this time. No exploration work was conducted from 1981 to 1994. In 1994, as a result of a series of complex corporate takeovers and reorganizations, the ownership of the property was divided amongst Falconbridge (60 per cent), Norcen Energy Resources (20 per cent), and Teck Corporation (20 per cent). American Bullion Minerals Ltd. acquired an 80 per cent interest in the property in early 1994, with Teck retaining the remainder. American Bullion conducted 21,417 metres of diamond drilling in 58 holes in 1994 and a further 36,830 metres in 115 diamond-drill holes in 1995.

The intensive exploration by American Bullion Minerals in 1994 and 1995 expanded the resource inventory of the Red Chris deposit and located two new zones of mineralization. Drilling in 1994 amounted to 21,400 metres in 58 holes, bringing the total number of holes drilled to date to 129. Based on a cutoff grade of 0.4 per cent copper, the indicated resource at Red Chris is estimated at 100 million tonnes grading 0.58 per cent copper and 0.46 gram per tonne gold (Northern Miner - May 8. 1995). Consultant Fluor Daniel Wright has estimated the open-pit resource at 157 million tonnes

grading 0.48 per cent copper and 0.37 gram per tonne gold, based on a 0.3 per cent copper cutoff (Northern Miner - June 12, 1995). In 1994, induced polarization and ground magnetic geophysical survey were conducted to help outline mineralization and identify potential new targets.

During 1995, American Bullion Minerals Ltd. (80 per cent) and Teck Corporation (20 per cent) conducted the largest exploration program in the province totalling approximately 36,830 metres in 115 diamond-drill holes. Drilling traced mineralization over a strike length in excess of 3 kilometres, adding approximately 400 metres of strike length to the Red Chris deposit. It has also resulted in the identifying of potential new reserves in the Gully and Far West zones, collectively referred to as the Yellow-Chris zone located within about 1 kilometre of the western limit of the Red Chris deposit. Some support for part of this work was from the Explore B.C. Program. At the beginning of the year, Fluor Daniel Wright Ltd. calculated mining reserves, based on a cutoff grade of 0.3 per cent copper in an open pit 300 metres deep, at 157 million tonnes grading 0.48 per cent copper and 0.37 gram per tonne gold. Two near-surface, higher grade stockwork copper-gold zones containing 100 million tonnes grading 0.58 per cent copper and 0.46 gram per tonne gold are potential starter pits (Information Circular 1996-1, pages 14,15).

The Gully zone is an east trending area of quartz stockwork copper-gold mineralization. Ash (Fieldwork 1995) reported that 36 holes had outlined two parallel, subvertical intervals of copper-gold mineralization to a depth of roughly 300 metres that were separated by an unmineralized interval of gypsum stockwork, probably along a later fault. Roughly two-thirds of the mineralization is hosted by altered Red stock. The remainder is contained within a contact zone of sheeted Red stock with screens of feldspathic wacke country rock.

On the Far West zone, which occupies the northern part of the Yellow-Chris zone, copper-gold mineralization has been intersected to a depth of 250 metres over a 700 metre length with widths varying from 150 to 250 metres. Mineralization is hosted by both the Red stock and volcanic sediments.

Metal and sulphide zoning occur. From east to west, zones vary as follows (note copper:gold = per cent copper:grams per tonne gold):
1. East zone - mainly bornite, intense silicic alteration; copper:gold about 1:0.8.
2. Main zone - chalcopyrite greater than bornite, pyrite 1-3 per cent, copper:gold about 1:1, occasional molybdenite specks.
3. Gully zone - bornite is uncommon, copper:pyrite is about 1:1, pyrite 3-4 per cent, copper:gold about 1:2.
4. Far West zone - pyrite greater than chalcopyrite, pyrite 3-4 per cent, copper:gold about 1:3, gypsum veins, occasional base metal sulphides in quartz-carbonate veins.

Sulphides in relative abundance order are pyrite, chalcopyrite, bornite, magnetite(hematite), sphalerite, galena and molybdenite. Potentially economic commodities are copper, gold and silver (averages 10 parts per million).

Deposits are apparently controlled by east-northeast faults and stepped down to the west and offset laterally along younger north trending faults. Thus, the western deposits represent progressively shallower parts of the hydrothermal system.

In April 1996, a prefeasibility report by Fluor Daniel Wright for American Bullion Minerals Ltd. identified a geological resource, defined by 244 drillholes totalling 71,000 metres, of 550,000,000 tonnes grading 0.323 per cent copper and 0.254 gram per tonne gold, defined by a 0.2 per cent copper cut-off (Information Circular 1998-1, page 19). The capital cost for a 90,000 tonne-per-day milling operation was estimated at $541 million; mine life was estimated at 16 years.

In June 1997, the company came under new management and formulated a new strategy which calls for a dozer push open-pit mining method resulting in a daily mill throughput of 30,000 tonnes over a 20 year mine life, allowing for selective mining of a higher grade core of the deposit, estimated to contain 210 million tonnes grading approximately 0.46 per cent copper and 0.38 gram per tonne gold (Information Circular 1998-1, page 19). This new plan would result in significant reductions in development cost, capital cost of mining equipment, and simplify the operation. The company intends to present this new strategy to the Northwest Mine Development Review Committee early in 1998 and plans an aggressive program in 1998. In April 1998, Giroux Consultants Ltd. estimated a new resource of 522.7 million tonnes grading 0.352 per cent copper and 0.272 gram per tonne gold at a cut-off grade of 0.2 per cent copper. Furthermore, a company review has identified an "inner core" of 118.9 million tonnes grading 0.584 per cent copper and 0.470 gram per tonne gold at the same cut-off (Information Circular 1999-1, page 7).

The results of a pre-feasibility study were announced in a News Release dated July 7, 1998. The total resource is calculated to be 224.5 million tonnes grading 0.419 per cent copper and 0.330 gram per tonne gold over the 20.5 years of mine life. The stripping ratio would be 1.4:1 and the mill throughput would be 30,000 tonnes per day. Copper/gold recovery is projected to be 88 per cent/63 per cent (American Bullion Minerals Ltd., News Release, July 7, 1998).

In October 2002, Red Chris Development Corp formed a joint venture with American Bullion Minerals Ltd. In December 2002, bcMetals acquired the Red Chris Development Corporation thereby becoming part owner of an 80 per cent interest in the property, with Teck Cominco retaining the remaining 20 per cent and a back-in option. As of late 2004, Falconbridge Ltd. maintains a 1.8 per cent net smelter royalty. bcMetals acquired an option in September 2003 to earn Teck Cominco's interst.

bcMetals completed a $3.6 million 16,591 metre, 49 drillhole program in 2003 to confirm resources in the East and Main zones. Inferred resources were estimated for the Gully and Far West zones. A twenty drillhole, 2850 metre program began in 2004 with some directed to geotechnical studies. In November 2004, bcMetals reported feasibility highlights including a 25-year project life at a milling rate of 30,000 tonnes per day; open-pit mining

would continue at a rate of 10.95 million tonnes of ore per year for 17 years, at an average stripping ratio of 2.3:1, after which low-grade ore recovered from stockpile would be processed for the remaining eight years. Life-of-mine stripping ratio, after reprocessing of stockpiled material, is 1.1:1. A three-month pre-production period is required before plant start-up, during which a total of approximately five million tonnes of waste and low-grade material would be mined; proven and probable reserves, excluding processing of stockpiled material, are estimated at 185.4 million tonnes at 0.414 per cent copper and 0.325 gram per tonne gold. Including material recovered from stockpile, (90.6 million tonnes at 0.216 per cent copper and 0.145 gram per tonne gold), total proven and probable reserves are estimated at 276 million tonnes at 0.349 per cent copper and 0.266 gram per tonne gold (December 20, 2004 Technical report at www.SEDAR.com).

In mid-2006, Imperial Metals launched a takeover bid for bcMetals Corporation, owner of the Red Chris project located in northern British Columbia. In April 2007, the Company completed the takeover of bcMetals.

In 2007, six diamond-drill holes were drilled to test the depth extent of the Main and East zones. One of the six holes (07-335) was drilled to a depth of over one kilometre in the East zone and intercepted 1024.1 metres grading 1.01 per cent copper and 1.26 grams per tonne gold, the best hole ever drilled by the Company and one of the longest mineralized intercepts ever drilled in British Columbia. That drill hole collared in high-grade, was mineralized over its entire length, and ended in high-grade indicating that the zone has good potential for expansion.

The results of the 2007 drill program confirmed the Red Chris copper-gold deposit is much larger than the 2004 measured and indicated resource of 446 million tonne estimate grading 0.36 per cent copper and 0.29 gram per tonne gold. Further work to establish the full size and extent of the Red Chris orebody and the amenability of the deeper portions to bulk underground mining techniques will be undertaken. Plans for 2008 include construction of an exploration trail into the site so follow up drilling can be conducted without helicopter support (Imperial Metals Corporation Annual Report 2007).

In 2008, three vertical drillholes, totalling 2220 metres, were completed on the East zone. Drillhole RC08-343, collared 165 metres northwest of hole 07-335, intercepted 433 metres grading 0.36 per cent copper, 0.46 gram per tonne gold and 1.13 grams per tonne silver (Gillstrom, G., Robertson, S., Anand, R. (2015-09-30): 2012 Technical Report on the Red Chris Copper-Gold Project).

In 2009, a further eleven drillholes, totalling 14,172 metres, were completed on the East zone. Drilling highlights included drillhole RC09-350 which was collared approximately 170 metres northeast of hole 07-335 and intercepted 432.5 metres grading 2.00 per cent copper, 3.80 grams per tonne gold, and 4.42 grams per tonne silver (Gillstrom, G., Robertson, S., Anand, R. (2015-09-30): 2012 Technical Report on the Red Chris Copper-Gold Project).

In 2010, Imperial Metals released an updated resource estimate:

Classification	Amount (tonnes)	Grade Cu(%)	Au(g/t)
Combined (measured & indicated)	312,571,000	0.54	0.55
Inferred	237,701,000	0.46	0.50

Red Chris NI43-101 Technical Report dated May 19, 2010 (http://www.imperialmetals.com)
Calculated using a 0.3 per cent copper cut-off.

Later in 2010, a deep exploration diamond drilling program was conducted on the Saddle, East and Main zones with 47 holes, totalling 52,810.8 metres, being completed. Highlights of drilling include 671.2 metres grading 1.03 per cent copper, 1.66 grams per tonne gold, and 1.94 grams per tonne silver in RC10-360 and 1112.5 metres grading 0.61 gram per tonne gold, 1.96 grams per tonne silver, and 0.54 per cent copper in hole RC10-393 (Gillstrom, G., Robertson, S., Anand, R. (2012-02-02): 2012 Technical Report on the Red Chris Copper-Gold Project - Drilling to the End of 2006 - Drilling to the End of 2009 - Red Chris Deposit). Mineralization was extended east of the East zone in hole RC10-375 which intersected 861.7 metres grading 0.41 per cent copper, 0.38 gram per tonne gold, and 0.94 gram per tonne silver (Gillstrom, G., Robertson, S., Anand, R. (2012-02-02): 2012 Technical Report on the Red Chris Copper-Gold Project - Drilling to the End of 2006 - Drilling to the End of 2009 - Red Chris Deposit).

Updated Reserves reported in the 2011 Technical Report on Red Chris Copper-Gold Project (www.sedar.com) are as follows:

Classification	Amount (tonnes)	Cu (%)	Au (g/t)

Proven	262,259,991	0.375	0.288
Probable	25,449,813	0.293	0.207

In 2011, Red Chris Development Company Ltd. drilled twelve further drillholes, totalling 12,685 metres, on the East, Saddle, Gully and Main zones. One deep, vertical drillhole totalling 1016.51 metres was drilled in the southwest of the projected open-pit footprint and provided useful information on the depths of critical geological and structural contacts, as well as on mineralization in an under-explored part of the Red stock. Drilling on the Gully zone yielded intersections of up to 807.5 metres grading 0.31 per cent copper and 0.29 gram per tonne gold in hole RC11-477 (Gillstrom, G., Robertson, S., Anand, R. (2012-02-02): 2012 Technical Report on the Red Chris Copper-Gold Project - Drilling to the End of 2006 - Drilling to the End of 2009 - Red Chris Deposit).

Updated Resources reported in the 2012 Technical Report on Red Chris Copper-Gold Project (www.sedar.com) are as follows:

Classification	Amount (tonnes)	Cu (%)	Au (g/t)	Ag (g/t)
Measured	830,700,000	0.36	0.36	1.17
Indicated	203,000,000	0.30	0.29	1.01
Measured & Indicated	1,034,700,000	0.35	0.35	1.14
Inferred	797,100,000	0.29	0.32	1.04

Construction of the Red Chris mine commenced in May 2012 and was completed in November 2014. Plant commissioning commenced in late 2014 and Red Chris produced its first copper concentrate on February 17, 2015. Mining activities have focussed on both the East and Main zones, which will eventually merge to form one pit. Commercial production was achieved on July 1, 2015. The current mine life is to 2043 (http://www.imperialmetals.com).

Throughout 2019, exploration at Red Chris continued with an East zone resource definition drilling program and a brownfield exploration drilling program. The brownfield program identified an additional higher-grade zone and expanded the footprint of the Gully zone.

At the Red Chris mine, production to the end of the third quarter of 2020 totalled 40,275 ounces gold and 49.8 million pounds copper. As of 2014, open pit/block cave Measured plus Indicated resources totalled 1.034 billion tonnes with grades of 0.35 per cent copper, 0.35 gram per tonne gold, and 1.14 grams per tonne silver. Additional Inferred resources totalled 787.1 million tonnes with average grades of 0.29 per cent copper, 0.32 gram per tonne gold, and 1.04 grams per tonne silver. Proven plus Probable reserves total 301.5 million tonnes grading 0.36 per cent copper and 0.27 gram per tonne gold (Information Circular 2021-01, page 4).

In 2020, brownfield exploration drilling was carried out and electromagnetic and gravity surveys were completed to generate future targets. Resource definition infill drilling was also completed and confirmed several discrete high-grade pods in the East zone. Highlights from this infill drilling included 514 metres grading 1.3 grams per tonne gold and 0.77 per cent copper including 166 metres grading 3.0 grams per tonne gold and 1.5 per cent copper (from hole RC634) (Information Circular 2021-01, page 6).

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Date Coded:	1985/07/24	**Coded By:**	BC Geological Survey (BCGS)	**Field Check:**	N
Date Revised:	2021/05/13	**Revised By:**	Bronwen Wallace (BW)	**Field Check:**	N